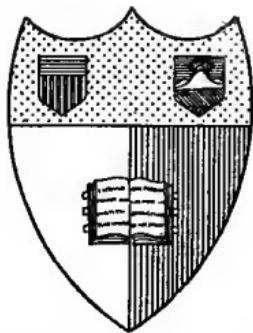


arV

15826



Cornell University Library
Ithaca, New York

BOUGHT WITH THE INCOME OF THE
SAGE ENDOWMENT FUND
THE GIFT OF
HENRY W. SAGE

1891

Cornell University Library
arV15826

The curriculum,



3 1924 031 389 053
olin,anx



Cornell University
Library

The original of this book is in
the Cornell University Library.

There are no known copyright restrictions in
the United States on the use of the text.

THE CURRICULUM

THE CURRICULUM

BY

KENNETH RICHMOND

AUTHOR OF "THE PERMANENT VALUES IN EDUCATION";
"EDUCATION FOR LIBERTY"; AND—WITH J. D. HEREFORD—
"W. E. FORD: A BIOGRAPHY."

LONDON

CONSTABLE & COMPANY LTD

1919

PREFACE

THE aim of this book is to contribute a series of brief suggestions towards the task of making our school curricula simpler, more elastic, and more united within themselves. They must be made simpler, because their present array of "subjects" tends to become a jumble in the mind of the learner. They must be made more elastic, because our conception of a liberal education is widening—as it must continually widen if we remain a progressive people—and we cannot help seeing that many new "subjects" have to be brought in. And the curriculum of every school must be unified within itself, because the blind multiplication of "subjects" is distraction.

The cult of "subjects" in education is really out of date. There is only one subject—knowledge; and only one object—free and active development. Wholeness is what we lack, and wholeness is synonymous with health. Educational wholeness can be bought at its proper price, a readiness to melt down our innumerable fragments of theory and method and recast them in a single mould. Far be it from me to dictate what the mould should be : I try only to put into the common stock such suggestions as arise from my limited thought and experience.

These suggestions I have divided into three parts, corresponding to the three types of schooling to which we are committed. I take the secondary school curriculum first because it is (or can be) the most comprehensive, and also the most definite. The elementary school curriculum can be less definitely outlined at present: we cannot know, yet, all that can be done with the extra years provided for in the new Education Act. The continuation school curriculum must be still more fluid in our minds, if it is not to be made a lifeless mechanism; and the suggestions that I put forward for continuation courses must be regarded as "suggestions" in the most liberal sense of the term. Their only solidity derives from the previous secondary and elementary models, which are, indeed, all that we have to build by.

As regards my first and least nebulous model—the sketch-design for a secondary curriculum—the relative values assigned to the different aspects of knowledge are avowedly open to criticism. All progressive critics, I think, will allow that the importance of education in the social, the civic, and even the philosophical values has not been over-estimated, and I can hope that my insistence upon the aesthetic values may not meet with too Philistine a reception. But the rational sceptic—the first person whom I would enlist in the cause of solid reform—may ask how all these values are to be developed without sacrifice of the existing curriculum-structure. It is

of no use, he may justly observe, to make a rubbish-heap of the solid, if narrow, structure that we possess. One cannot build securely upon a rubbish-heap.

I will take one instance: it may seem that I propose to make a rubbish-heap, in the following studies, of our present method or lack of method in language-teaching. I propose that a single morning period shall be allotted, from the start, to the study of language, and that this shall suffice, later on, for the study of several languages—with some allowance in the afternoon for further modern-language work. It is difficult to believe that this one daily period, with or without afternoon additions, can give sufficient scope for the study of two, three, and perhaps four languages, including the mother tongue. But the critic must consider the effect, first, of having studied the mother tongue thoroughly to begin with; second, of having approached each new language, not as a *terra incognita*, but as an interesting variant of language as he knows it; and, third, of having realised that language—human expression in words—is a single subject. The pupil who has grasped this principle, and has learned the main facts about the structure of English, can learn the main facts about the structure of another European language very rapidly. Most of the time that is spent in “learning the grammar” of this or that language is time wasted. Grammar is the science of words: one science, not half a dozen. The pupil who is rightly grounded in the one science, through his

mother tongue, need not relearn it every time he begins to study a fresh tongue. The original confusion of tongues has been attributed to the building of the Tower of Babel : I suspect that our present educational confusion of tongues is our Nemesis for having built a Tower of Pigeonholes in which to teach. I am not proposing to fell the tower, but to knock out the unnecessary partitions and to put in several doors of communication.

In Professor John Adams's symposium, "The New Teaching," we can see how strongly the tendency is growing, in representative modern practice, to simplify and to co-ordinate the *materia* of education. The further practical need, as I see it, is of an accepted system of principles for co-ordination, towards which we may work in common. The studies in this book are suggestions towards a system of this nature. The individual principles that I put forward are fairly widely accepted in theory ; what we have to do now is so to combine them that they can operate as a single system in practice.

The present attempt at systematisation represents, in considerable measure, the dissolving and re-crystallising of principles that have been stated from different points of view in my earlier books. As the Bellman says in "The Hunting of the Snark," "What I tell you three times is true ;" and what I have to say on this fourth occasion will, I hope, be regarded as truth that is approaching truism. But it seemed worth while to recast the truisms of real

education in yet another mould, with a special eye to our present and immediately prospective needs, before I left the sphere of pedagogy for that of educational and re-educational psychology. The new psychology finds little place, unless by implications which those who know will recognise, in the following studies: before it induces an organic revolution, as it will, in pedagogic theory and practice, we have to make doubly sure of the principles with which it can enter into natural alliance.

My thanks are due to *The Times* for leave to republish the three groups of studies, which originally appeared in the *Educational Supplement* of that paper. I owe my original impulse towards the sketching of a structural model of the curriculum to Mr. Cloutesley Brereton; and it is a sad pleasure to record my debt to the shrewd criticism and generous encouragement of that gallant worker in the cause of educational reform, the late Mr. Hardress O'Grady.

K. R.

CONTENTS

PREFACE	PAGE
	v

PART I.—THE SECONDARY COURSE

I. PRELIMINARY NOTES	I
II. MAPPING OUT THE DAY	5
III. THE SCIENTIFIC BASIS	9
IV. THE HISTORICAL BASIS	14
V. THE UNITY OF LANGUAGE	18
VI. REAL MATHEMATICS	22
VII. GEOGRAPHY	26
VIII. ARTISTIC WORK	30
IX. RELIGIOUS TEACHING	34
X. ROOTS AND BRANCHES	38
XI. THE TEACHER	42
XII. THE LEARNER	46

PART II.—THE ELEMENTARY COURSE

I. ELEMENTS AND ENDS	50
II. WORDS AND THINGS	54
III. THE GRAMMAR OF REALITY	57
IV. READING	61
V. STORY AND HISTORY	65
VI. EVERYDAY SCIENCE	69
VII. THE SCIENTIFIC END	73
VIII. HANDIWORK	76

		PAGE
IX.	MAKING AND THINKING	80
X.	PHYSICAL EDUCATION	84
XI.	MAKING THINGS FIT	88
XII.	CONCLUSION	92
 PART III.—CONTINUATION COURSES		
I.	THE FIRST NEEDS	96
II.	THE SCIENCE OF READING	100
III.	THE USE OF WORDS	104
IV.	THE WRITTEN WORD	108
V.	SCIENCE AND WORK	112
VI.	HISTORY	116
VII.	POLITICS	119
VIII.	EXACT METHOD	123
IX.	CRAFTSMANSHIP	127
X.	DRAWING	131
XI.	EXTRA SUBJECTS	135
XII.	CONCLUSION	139
<hr/>		
INDEX		143

PART I

THE

SECONDARY COURSE

I

THERE is something essentially tantalising about the principles of education. To any one who studies them closely, in the works of the masters,
Preliminary Notes. they furnish a fine body of doctrine, clear, convincing, and inspiring. But with the

inspiration there often comes a sense of depression, as we realise the gulf between principle and practice. For this reason many of us shrink from digging to the roots of educational theory. Those who have gone deeply into the fundamentals often emerge with nothing but laments for the present or exhortations, somewhat vague and general, for the future. The chief difficulty is that the only means of reducing principle to practice is practice itself ; and practical reform has always to start from small beginnings, and from different beginnings in every school. No scheme that is at once practical and ideal can spring immediately into complete being, because it cannot be adopted wholesale without being adopted mechanically, so that the self-creative value of school work and life disappears. And this self-creative value is

worth more than the most perfect mechanical system.

If I am to attempt to work out a few of the conclusions as to the structure of the curriculum which seem to me to be forced upon us by the first principles of education, it must be with a firm preliminary disclaimer of any intention to set up a scheme for wholesale adoption. We can only build a model, for purposes of criticism and comparison. It will possess the advantage of having stood the test of practice ; it is a working model ; but it had to grow by degrees, as every attempt at a systematic reform of method has to grow by degrees. Its use for the reader must lie, not only in any suggestions of constructive method that it may raise, but also in the original adjustments that can be thought out for the gradual application of those suggestions to the conditions and needs of any particular school. A formulated scheme for the curriculum must of necessity be adapted rather than adopted. It will be well to indicate briefly the main principles upon which we shall build.

First, we shall aim at simplifying the classification of subjects, on the principle that the fewer and broader the subject-headings, the more nearly we shall be able to approach the ideal of working the minor subjects, too often kept in isolation from one another, into a co-ordinated unity. We shall make use of only five main headings : Religious Knowledge, connected with the secular work of the school

through the considerations of ethics and of social service which will come to the front in that work ; Language, studied both from the structural and the literary point of view, different languages being taught as special cases of a single main subject, and the aim of developing a just and sensitive appreciation of the mother-tongue being kept always in mind ; History, based primarily upon world history and the opening up of a continuous vista through time—the development, that is, of a true historical sense ; Science, based upon investigation of the processes of nature, introducing the sciences as and when they become relevant to the gradually enlarging range of inquiry ; and finally, Artistic and Manual Work, brought as closely as possible into illustrative connection with the foregoing subject-matter. This broad classification does not imply that special times will not be given to the study of French or Latin, or mathematics, or geography. Pure mathematics, for instance, is a science, and applied mathematics is the servant of the sciences—including, we will add, economics and the science of business, lest we be accused thus early of forgetting the claims of the business world upon education. Our grouping is designed to build up a consciousness of the principal relations. Geography is partly historical, partly scientific ; in making geography a sub-heading we are not slighting the valuable labours of modern enthusiasts for geography, nor shall we be found tearing the subject asunder, to place half

under each of two arbitrary main headings. The integrity of every subject must be preserved, but our object must also be to open up its natural relations with every other subject.

This brings us to a second main principle, already foreshadowed. No divisions of subject-matter, however broad and fundamental we can succeed in making them, are watertight in fact ; and we cannot make them watertight in the practice of teaching without doing violence to reality. Science, history, and language, broadly defined as the study of existing relations, of the processes by which they have come into being, and of our means of formulating and fixing the ideas to which they give rise in us—or, more simply, the study of how things work, how they have come to work as they do, and how we speak to one another about them—these are distinct, but interpenetrating, regions of study. Science cuts its cross-section through the lines of history at any given point in time ; language has its history and its science, as history and science have their languages. Our principle for the mastery of knowledge must not be *divide et impera*. Our whole effort, on the contrary, must be to distinguish, but to unite. It is not in itself an evil symptom of high civilisation that specialisation should be the road to advancement ; but we are much in need of specialists whose distinctive ability rests upon a broad understanding of the working of things in general, and of a public for whom specialised knowledge joins on to, while

it transcends, the common stock of generalised knowledge. It is only by preserving the unity of knowledge that education can further the solidarity, while it keeps in touch with the increasing ramifications, of civilised evolution.

II

Two tendencies pull the time-table in opposite directions. On the one hand, the spacing and arrangement of subject-periods influence **Mapping out
the Day.** a school's outlook upon knowledge considerably ; a time-table of which the structure has been well thought out gives the idea of knowledge as a proportioned edifice, and we want to realise this architectural value as fully as possible.

On the other hand, mechanical difficulties—chief among them the annoying fact that no given teacher can be in two places at the same time—tend to disintegrate the structure of the time-table until it is a mere patchwork, with the subjects simply fitted in where they can be fitted in, sequence and coherence being left out of account. In putting forward a plea and a suggestion for the structural time-table we must not be thought to underrate the difficulties, but only to put forward reasons why they ought to be overcome.

In many time-tables the most that is done by way of arrangement is to take care that subjects which make the same type of demand for concentration and mental effort shall not be taken in succession.

Geography comes after algebra, handwork after Latin grammar, and so on. This is laudable in itself, but regarded as a sole principle it is apt to induce one kind of mental fatigue while it avoids another. The time-table becomes kaleidoscopic, and the children weary of perpetual change, the perpetual effort to switch their attention from one circuit of activity into another. Neither is this switching to and fro of the attention a good mental habit to form ; and there is the further consideration that a teacher of the more formal subjects is encouraged to do his worst in the way of exacting continued concentration instead of attempting the important task—important for his pupils' understanding of the subject, as well as for their mental health—of varying his mode of approach so as to bring different faculties and activities to bear upon different parts of the same lesson. But the chief objection to the kaleidoscopic time-table is that, by putting unrelated subjects next door to one another, it induces a state either of bewilderment or of apathy as to the essential connection between one branch of knowledge and another, and thwarts, instead of developing, the child's natural desire to see how the branches grow from common roots. We have to trace the articulation of the tree of knowledge, not merely to hop from twig to twig.

Contrasted with the modern tendency to a patch-work arrangement, we have the traditional public school time table, a trifle gnarled, full of dead wood

that could be cut out with profit, but possessing structure. The time-honoured division, "classics, mathematics, English and French," has structure of a kind, though it is an illogical and a faulty kind. A boy can see his way about it, if it is only a formal and unreal way that he sees. It will be seen that in our present suggestion for an arrangement of the time-table we shall treat the public school structure as a model, but as a model to be altered.

Following our main division of a school's intellectual work into language, history, and science, we shall give the morning to language and history, the afternoon to science. Religious teaching will come first, though not with a view to keeping it as remote as possible from scientific teaching ; its first affinities are with the study of language and of history, but principles worked out in the science classes will continually be brought forward for co-ordination with the religious outlook. The study to which the second period of the day will be allotted may be denoted as grammar, if we may claim something of its old dignity for the word. It should imply the whole study of the science of language, as distinct from the art of language. The treatment of different languages under a single scheme must be discussed in a later section. The next period we shall devote to mathematics as a connecting link between the logic of words and the logic of reality. We spoke of mathematics, in the preceding section, as a science ; it would be more correct, perhaps, to call it a language

of science. The different branches of mathematics will be taught in close co-ordination with one another, and the material for problem work will be chiefly drawn from data that are being worked out in other lessons. After the mid-morning break, two successive periods will be given to history and composition ; history being well correlated with geography, and including a study of the development of civics and economics ; while the composition class is at times dependent for subject-matter upon recent history lessons (at such times the two periods can merge into one), at other times upon facts and considerations drawn from other studies. Further, as the grammar period is concerned with the science of language, so the composition period is concerned with the art of language, and the development of a natural, graceful, and appropriate style will be a primary objective.

Our afternoon time-table will consist chiefly in two long periods : One for natural science, including geography (which can stand in a closer or a looser relation to the specific sciences according to the aspect in which it is being studied at any given time) ; and one for a variety of arts and handicrafts. The latter will include experimental and illustrative work in connection with the science teaching, and at times the greater part of an afternoon can be given to a particular piece of practical investigation. On other occasions the working out of scientific theory, demanding more concentration and less time, can

precede any form of art work that needs an extended period. There is still room for another short period, which may well be given to conversational practice in the modern language or languages studied, from the grammatical and literary points of view, in the morning period allotted to language. It may not be obvious, to those who have been long accustomed to thinking in terms of separate language-systems, or of separate sciences, how a place can be found for everything within the periods that we have suggested ; we shall endeavour to make this clear in subsequent sections. It is to be noted, however, that much depends upon grounding, and upon continuity of treatment—*e.g.*, the elementary principles of language-structure must be thoroughly apprehended in the junior forms through the study of English, and continually extended and consolidated as other languages are introduced. A time-table of this type can best be instituted, at first, in the junior forms ; in middle and upper forms only a gradual merging is practicable of subjects at present held in artificial separation.

III

IT is purely for convenience, not at all with the idea of putting science in a predominant position,

The Scientific Basis. that we proceed to speak first of the scientific side of the curriculum. In a time-table of the type that was described in the last section, the first aim is that no subject

should be predominant, but that all subjects, so far as they have natural relations with one another, should be interdependent. Having instituted a Round Table of subjects, we can start with any subject without thereby giving it pride of place ; and science is a convenient sector of our circle to choose, because science lends itself most readily to the exposition of the principle that we shall follow throughout—the principle of regarding knowledge as a unity, seen from a diversity of aspects. The scientific aspect is, by nature, the aspect in which we can most easily see things in relation to one another.

Following our main guiding object, to simplify by unification, we find ourselves in search of simple, unifying truths of science that will draw the detailed work of the various sciences into a group of common realisations. Such a truth is the cycle of change through which matter is elaborated for the uses of life ; the work of plants in producing the food upon which we and the animals depend ; the vital partnership, as we may put it, between man and his crops ; the continual process of disintegration and reintegration which is the material basis of vitality. This interests children, because it is a big idea, and a central idea ; an idea through which science can begin to tell them what they chiefly want to know, that the universe makes sense. At the same time it is, to start with, a simple idea ; it can be progressively realised from junior school nature-study up to the study by senior

forms of organic chemistry and economic geography —to name two diverse sciences which thus are traced to one of their common roots. Those who have only taught the sciences in separation from one another would hardly believe with what economy of time and labour (especially labour in the drumming in of ill-understood formulæ) such a subject as organic chemistry can be taught when its foundations have been continuously prepared, and its relation well established with the affairs of life in general.

Another main idea, related to the foregoing, is that of living forms passing through, rather than carrying with them, their investiture of matter ; like the wave instanced by Tyndall, which remains the same wave, though composed at no two given moments of exactly the same particles of water. This idea, simply worked out, does not prove in practice to be too abstract for children—probably because it satisfies in part their pertinacious desire to know how things work ; and it is of great use in correlating their conceptions of life with their conceptions of energy, and in helping them to avoid the Protean error instanced in Mr. Chesterton's story of the small boy, bothered by a gale, who said to his mother, “ Well, why don't you take away the trees, and then it wouldn't wind ? ” The distinction between vital or energetic cause and material effect needs to be clearly and continuously established, not only in the interests of science, but of history and geography, for example, as well. It is one of the functions of

science to make it quite clear, in every relation of life, that the trees do not make the wind.

These are only instances of main lines of thought and comprehension that can be followed up ; others will suggest themselves, and those ideas are best that spring from the teacher's own reflections upon the simple fundamentals of science. All that we would urge is that scientific knowledge should be rooted in main ideas of universal interest, and that these ideas should start from the common ground on which all children meet—the desire to find general explanations for the particular things that they can see happening around them. This involves the abandonment of a kind of false simplification to which science teaching is prone ; as, for example, when we begin the study of chemistry from the "simple" fact that zinc liberates hydrogen from sulphuric acid. To begin with, this is not a simple fact, but a highly complex electro-chemical phenomenon ; but there is the further point that it starts in no relation with the learner's experience. We have to lead him to systematise that experience before there will be any relevance in his systematising the laws of chemistry. It is easier to teach inorganic chemistry out of a text-book than to work out a progressive systematisation, by simple steps, of science as it explains the things that happen to us and around us ; but it is not so interesting, and it is not education.

And there is the further and more important point that a gradual, patient co-ordination, in a scientific

scheme, of the child's widening outlook upon realities is the only way of bringing his scientific consciousness into relation with his thoughts upon matters other than scientific. His science, at any age, must be a philosophy, however simple, if he is to connect it with the philosophies of religion and art, of history and language. The old term "natural philosophy" defines pretty adequately what should be the scope of school science. The danger of natural philosophy, as distinct from the study of arbitrarily distinguished "sciences," is diffuseness; but at the same time we require, if not diffuseness, at any rate diffusion, of scientific concepts. The prophylactic against diffuseness is the thinking out—the collective thinking out, as far as may be, by teacher and class together—of significant main ideas. The diffusion of these ideas will depend upon the efforts made by the teacher of science, in common with the teachers of other subjects, to correlate the scientific work with the other work of the school. Science and geography should, if possible, be in the same hands, and be treated to a great extent as the same subject—given that the teachers of science and of history confer very closely for the establishment and maintenance of a common view of historical geography. Science (including geographical science) can supply many interesting data for working out in the mathematical class; it is a common arrangement that the teacher of science should also teach mathematics, but it is less usual to find him teaching science and mathematics to the

same form and also leading that form to realise that their mathematical formulæ are part of the essential language for the expression of their scientific ideas.

IV

THERE are three main interests in history : biography, event, and structural sequence. The

The Historical Basis. last is the most abstract, and ultimately the greatest, interest, to which the other two become subservient ; but it is an interest that only grows by slow and patient degrees. It remains undeveloped in so far as history is taught without a consecutive and carefully graded scheme, so that only an accumulating jumble of " periods " is left in the learner's mind ; and it develops, at the best, along cold and academic lines unless it is connected, for the learner, with a widening range of event and of the human realities.

The interest of event, and the human interest, can be established very early in the historical stories told or read to children ; and it is at this stage that the roots of historical apprehension (as distinct from historical comprehension, which involves structural sequence) should be encouraged to spread into every region of childish thought. The subsequent breadth of historical interest will depend very largely upon this early work. The teacher of junior history should know, in some detail, what his children are learning in their other work, and should seize every opportunity of throwing picturesque historical side-

lights upon the development of different branches of knowledge. This gives to their conception of history an increasing richness of content, while at the same time reinforcing the interest of their work in general.

There are two modes of transition from the stage of historical stories to the beginning of structural history: the study of single comparatively short periods, and the elementary study of world history. Too commonly, it is not so much a transition that is made as a jump. "Periods" suddenly become, and remain, the sole order of the day, while world history is practically disregarded; and the formal study of periods bears little relation to the previous story-telling. It should, on the contrary, be a graded extension and amplification of the story-telling phase, the stories becoming increasingly consecutive and more and more closely linked up with one another. But this alone does not develop an historical *sénsé*. It leaves history too much like a jigsaw puzzle of an infinite number of pieces. A key is necessary: a mental chart, by the aid of which character and event can be seen in their proper time-perspective. It is the first, though not the only, argument for the inclusion of world history in the curriculum, that without world history there is no real history.

By the time children are ready for the beginnings of world history, the foundations should already be laid by that part of the world's story which counts as geography. To begin with, physical geography

prepares the world, as it were, for the reception of its inhabitants ; we then proceed to study the action and reaction between character, event, and environment, bringing the whole into structural sequence. It will be obvious that careful collaboration between the teachers of history and of geography is essential. It is no less essential that the teachers of history and of Scripture should confer together. The study of the early civilisations from two points of view—the point of view of the world and the point of view of the Hebrew religion—can be highly educative if the two views are correlated, and highly confusing if they are not. The same thing is true of Mediterranean history and the New Testament ; and of the two aspects according to which there is a history of Europe and a history of Christendom. Equally the history that is a study of human character in time must take account of the development of social science, and needs to be brought into relation with scientific method ; history and science can combine to build up a conception of social ethics.

We have not yet traced the practical relation between the study of world history and the development of historical story-telling into a study of historical periods ; it may be as well, to begin with, if we reassure the reader that the proper study of world history need not engross all the available time. It should be taught at first in very broad and simple outline, and then returned to from time to time for fuller and more mature treatment. Successive

impressions are more effectual than intensive study. Reminders of historical stories that have previously been told should continually be brought in, so that the stories can now be placed in their proper time-setting (a chronological record of the stories should, of course, have been kept) ; and fresh stories should be so chosen as to bring interest of character and event into any sequence that seems in danger of becoming merely diagrammatic. As teaching by stories gradually merges into real period-study, and the periods begin to acquire time-structure, it is important to relate this to the wider structure that is being established through the study of world history—to see that it is realised how brief a story is told by any set period of history in comparison with the complete story that is gradually, and in part, being unfolded. History can be, and but seldom is, a magnificent training in sense of proportion. For the sake of this training, if for nothing else, it is well to keep the teaching of world history and of period history going on at the same time, and in careful relation with one another. The writer's experience is that two history lessons in the week, out of six, give a sufficient comprehension of world history.

Period history, meanwhile, has also to be kept clear of the dangers of discontinuity and isolation from other subjects. The prevalent teaching of history might almost be said to consist of premature specialisation in periods ; and this necessarily

involves a lack of co-ordination with other interests. The remedy is, first, as we have suggested, to extend and amplify the method of history teaching by story-telling—and to show that all the small stories are parts of a big story ; and, second, to develop the teaching of world history so that, in studying history, children are studying one of the aspects of everything. The most elementary effort to co-ordinate period history with world history does away with the grossest absurdity of all—the study of periods for periods' sake, by which children learn to see the story of the human race as nothing but a confused patchwork, with the patches not even sewn together.

V

OF all the reforms that should develop from the principle of teaching the unity of knowledge, the **The Unity of Language.** most obvious is that language should be taught as a unity, based upon a group of main principles common to the European languages. The chief difficulty is that we have to proceed, not from one system to another, but from chaos to system. A transition is always easier to bring about than an act of creation. We have to create a system by which we shall be able to teach language, not merely languages. Such a system must be constructive ; it must possess continuity in time and uniformity of method. These two requirements present difficulties, of which the first

is by far the greater. A system that can carry a subject along slowly and steadily, from term to term and from year to year, must be the system not of one school, but of all schools between which interchange of pupils is likely to take place ; or else newcomers arriving in the middle of their school career will find themselves at sea. We must be so far Utopian as to suppose that our system has been adapted to the needs of at least a majority of schools of the same type. Given this, uniformity of method can be secured by consultation.

The beginning can be made in the junior forms with the first steps in systematic treatment of English. The structural study of the mother tongue, not of Latin, is the natural beginning for the structural study of language. And we would suggest that, at this first stage, the time given to a thorough elementary grounding in English should not be less than the time that will eventually be given to the co-ordinated study of English and other languages. All through the study of different languages upon different, unrelated systems, the learner is dogged by elementary mistakes that are not only mistakes in this or that language, but mistakes in the science of language itself ; this whole category of mistakes—and it is a very large category—melts away when the early study of English has been systematically planned and thoroughly carried out, if only the elementary language-principles, thus ingrained in the learner's mind, are not thrown away by the adoption

of a fresh system and a new terminology for every language that is subsequently learnt. With a common system and a common terminology for all languages (except in so far as any language presents new features that call for new names), the early groundwork in English can make a child surefooted in any language that he takes up later. The child has, in the main, to learn nothing but new forms for old realisations ; he can see his way clear to a fascinating exploration of the new mode of speech.

The fascination of Latin, during the time before a Latin text can be read with enjoyment, is the fascination of a language with a more definite structure than that of English. All children take pleasure in understanding how things work ; and the mechanism of the Latin language does in fact enable them to understand all language better if—an important if—the study of Latin is kept in close relation with the continued study of English and of French, points of difference, as well as of resemblance or identity, being carefully brought out. Later on, Greek presents a still more delicate and detailed mechanism, or a second modern language displays new divergences from the common stock. We have recommended, in the section on the school timetable, the teaching of languages, in co-ordination with one another, during a single, daily period of the morning. Translation and retranslation (after the manner of Ascham), and the drawing up of grammatical diagrams comparing the usages of dif-

ferent tongues, should be carried out so as not only to correlate other languages with English, but also to bring them into relation with one another. The practicability of this system, it will be clear, depends upon its having been the work of time. It cannot be imposed upon middle and senior forms all at once ; but it can gradually evolve upwards through a school, starting with the proper study of language, by means of the mother tongue, in the junior forms. This study, however, needs to be formulated upon common principles and methods by intercommunication between the heads and staffs of many schools before a sound beginning can be made.

Meanwhile, any single school can do something, and a valuable something, towards teaching language as a unity. Different terminologies, if they cannot be merged into one until common action has been taken, can be compared with one another ; teachers of different languages can collaborate so as to work, as far as possible, upon a common system and to introduce cross-references to one another's work ; and teachers of other subjects, realising that they, too, are inevitably teachers of language at the same time, and are either helping or hindering the language teaching of the school as a whole, can also study and discuss the treatment of English that is being carried out. By carefully maintaining the standard of language in their own classes and referring, for method in expression, to the terms and rules that are in use in the language classes, they will not be

digressing from their proper business, but greatly improving the clarity of their pupils' understanding. Above all and at the root of all, the systematic study of English can be made a real and a living thing by teaching not merely the aridities of "grammar" and "analysis," but the essential relation between the form of language and the substance of thought. Thought is—or should be—prior to speech; and language is never understood by those who learn to regard it as a science in itself, instead of as the vehicle and instrument of interesting ideas.

VI

MATHEMATICS, like art, has to be taught to a majority who need only to realise its significance; only a small minority will become mathematicians, even as only a small minority will become artists. For practical utility, outside such professions as engineering, only the most elementary knowledge is necessary, coupled with practice in bringing intelligence and understanding to bear upon simple problems of quantity. For mental development, counting in the value of mathematics not only as a gymnastic, but as a means of comprehending the very great and the very small—the star and the electron—and of grasping quantitative relations in general, much more than this is needed. Mathematical teaching, then, should be essentially non-vocational, though not anti-vocational; and this is the trend that

Real
Mathe-
matics.

reform has taken in the last decade or two. But reform is far from complete. Mathematics is still taught, in great measure, so that only the budding mathematical genius is really interested in it, and a good half of the pupils never learn more than the application of memorised processes which they do not understand. Both the interest and the understanding of every pupil ought to be secured ; and both can be secured if mathematics is taught as a means of expressing realities, a means of formulating concepts that are real to the growing mind. For the great majority pure mathematics can only become real by the way of applied mathematics ; and even for the gifted minority it is better that abstractions from the concrete should be made in class than doled out, ready-made, by the teacher. All abstractions, indeed, have to be made, not learned, if they are to grow and fructify in the mind.

What, then, are we to teach as mathematics ? First and foremost, the handling of such problems of quantity and proportion as arise in science and geography, and to a less extent in other studies—and are usually either neglected or scamped when they do arise. Here, once more, we meet the necessity of collaboration between the teachers of different subjects. Second, we can teach problem work in connection with local interests and events, these, again, coming into contact with historical development on the one hand and with geographical know-

ledge on the other. The principal concern of the mathematical class is with the whole nexus of quantitative values that is forming in the mind of the learner, and the scheme and sequence of mathematical teaching should be so arranged as to bring to a focus, at each stage, the quantitative interests that are appropriate to that stage. From this there follows a third requirement, which is also consonant with our general principle of unification. The "subject" method is only of incidental value in live mathematical teaching. From time to time an important mathematical law can be abstracted—and abstracted so as to be understood—from actual examples that have been worked out; these are the times for a spell of intensive "subject" work, which must on no account be neglected. But this is a very different matter from treating arithmetic, algebra, and geometry, and the other branches of mathematical expression, as separate, often as mutually isolated, "subjects." It is only being realised by degrees that to do this is inevitably to become involved in premature and ineffectual specialisation. Perhaps the worst sin of all is to teach the handling of algebraical symbols without having taken any effectual steps to teach their meaning. Algebra can be studied much more quickly and intelligently when symbols have first been used to express abstractions from immediate reality, as in the simpler formulæ deduced from experimental mechanics. It is more generally understood that geometry can best be

grasped as a sequel to mensuration and graphic arithmetic.

It is rule of thumb that has to be exorcised, and is in fact being discredited by slow degrees. We may be impatient with the slowness of the general advance, but the teacher can hardly be blamed who clings to rule of thumb until he can see his way to a rule of reason. And the teaching of mathematics in logical and intelligible sequence is not a problem for the mathematical class alone ; it is one of the inter-related problems of the curriculum as a whole. Until structure, co-ordination, and rational sequence are to be found in the general system of presenting reality to the child's apprehension, we cannot expect the mathematical teacher to base a coherent structure upon the quantitative aspect of that reality. But he can do much to forward the general advance, or at the least he can avoid putting the drag on by declining, for instance, to "teach science instead of mathematics." The attitude implied in that phrase is the attitude of one who has not realised that mathematics is a language of science. More positively, the teacher of mathematics can help the building up of a synthetic curriculum by working for a transition from rule of thumb to rule of reason. Even rule of thumb can be considerably vitalised by the searching out of illustrative problems that are real to the learner, and it gradually ceases to be rule of thumb with the extension of the teacher's practice and experience in the choice and use of real subject-matter.

The first practical step, for the teacher, is to examine the general syllabus of work for the coming term (if there is one) and prospect for material that will lend itself to correlation with mathematics ; he can then proceed to follow up, during the term, every vein that he has discovered, collaborating as much as possible with his colleagues. The first step for the head of a school is to arrange, preferably in consultation with the staff, a syllabus in which mathematics is viewed in its relation to other school work. It is true that examinations, tending, as they still do, to follow a curve that ends, for the few, in wranglership, make rule of thumb, for the many, to a great extent inevitable ; but on this point there are two things to be said. One is that time given to applied mathematics is time saved in the understanding of pure mathematics ; and the other is that the more schools can work towards the mathematics of reality, and away from the mathematics that is neither pure nor applied, but merely a system of puzzles and keys to puzzles, the speedier will be the improvement that is already taking place in examination questions.

VII

IN many respects the teacher of modern geography has been awake to the possibilities of synthetic method, while the teachers of other subjects have been asleep ; and geography, more than any other subject, has become rooted in a wide variety of interests. But it is diffi-

cult to find time for the full geographical programme because it involves, in effect, a demand that the geographer shall cover a good deal of ground that belongs by rights to science, mathematics, and history. It has been suggested, in previous sections, how the pressure can be relieved : historical, mathematical, and scientific training are the poorer for their lack of correlation with geography, and the result of correlation, to use a chemical phrase, is not a mixture, but a compound, of interests. Geographical teaching needs to be decentralised, but not partitioned.

Geography may be described as a study of the physical environment of civilisation, both as that environment is provided by Nature and as it has been modified by man. It is obvious that no sharp dividing line separates geography, on the one hand, from the type of science that is a development of Nature study, and on the other hand from history, economics, and politics. Further, geography has its mathematical side, ranging from the measuring and plan-making of junior forms to a study of the principal methods of surveying (an excellent introduction to trigonometry) carried out by older pupils. It is fairly easy to see where a convenient line may be drawn between the work of the geography class and the material that can profitably be handled by the teacher of mathematics in collaboration with the geography teacher. A similar collaboration with the teachers of history—not forgetting Bible history—

and of science can determine, with a little more trouble, the degree of co-operation that each can give to the geographer with advantage to his own subject. The kind of co-operation that can be brought about will depend upon the existing programme and methods of the particular school, but a few suggestions may be put forward as examples. We have mentioned the importance, in natural science, of the interdependence of different forms of life, putting down for early consideration in class work, and experiment in the laboratory, the function of plants as the only original producers of foodstuffs. With this the related questions arise of plant associations—agriculture—soils and rocks—rainfall and irrigation, natural and artificial. Here it is obvious that scientist and geographer should work upon a common plan. The geographical outlook adds breadth to the scientific, while science gives insight into the why and wherefore of geographical fact.

The economic side of history, again, cannot afford to remain outside this partnership of geography and science. One cannot understand a civilisation without understanding its basis of livelihood. The connection between the characteristics of a people and its environment and pursuits should be brought out ; and geography explains the environment, while science can give an insight into the development of industry. Not that character should be regarded as solely determined by environment and the activities consequent upon environment ; this error comes

not from combining history with modern geography, but from keeping them apart. The learner is then apt to see circumstance operating upon character, and character operating upon circumstance, as two separate, even contradictory, ideas ; whereas he ought to be realising the progressive interaction between circumstance and character. This is an instance of the scientific humanism now renaissant amongst us. The ideal can only be realised in practice through the co-ordination of the mind's different activities and modes of outlook.

The co-ordination of historical geography with Bible history is of great importance if Scriptural events are to have reality for the mind of the learner ; much of the unreality that is the bane of religious teaching is due, not to any lack of conviction and sincerity on the teacher's part, but to a failure to give Scripture its proper setting in time and place. The classic example of George Adam Smith's study of the 23rd Psalm shows how much can be done to make the wonderful imagery of the Bible come to life ; this should be regarded as an example to be imitated and made general, not as a rare oasis. In general, the connection of picturesque geography with the world of ideas and feelings is a valuable link between thought and reality. We may seem to be insisting more upon the benefits that geography can confer upon related subjects than upon the teaching of geography itself ; but it is precisely through its effectual touch with other subjects that

every subject enlarges its content and significance. The next step for the modern exponent of geography teaching, having earned our admiration by working out what may almost be called a geographical philosophy, is to impress the value of that philosophy upon all those, outside the geography class, who have need of it. His function will then be, in his own class, to centralise and systematise a geographical outlook that will be part of his pupils' general outlook.

This represents, broadly, the function of all teachers in the common working out of a synthetic curriculum ; but geography is in a specially favoured position in virtue of the fact that it has been able to make its own tradition. It can now lead the way—it has, indeed, already begun to do so—in showing how one subject can pervade and vitalise others, while itself drawing vitality from every point of contact.

VIII

ALL work, including school work, should have at least a touch of art about it ; and the aim of art

Artistic Work. work in schools, already differentiated from the conception of study that found

birth in formal schools of art, has to become still more comprehensive. The artistic perceptions must not be awakened only in drawing-rooms, in concert halls, and picture galleries ; the true end of the æsthetic outlook, as of the philosophical and the religious, is that the mind and spirit

may have life, and have it more abundantly. The artistic perceptions can vitalise everything, from the workings of Nature to Greek syntax. It will be easiest to speak first of the correlation of art work with Nature study, because this connection is already established to some extent in practice, and also because the relation between art and Nature is a truism.

The chief difficulty in correlating artistic with intellectual work is that what is good as a picture is not necessarily good as an illustration. The intellect demands diagrams; the artistic sense requires the more or less direct transmission of feelings, though the feeling transmitted be no more complex than a child's pleasure in a bright colour or a pretty shape. A child ought to be painting flowers rather than petals, sepals, and anthers. But is the opposition necessary? Any teacher of art would agree that feeling for structure should go hand in hand with feeling for form and colour. The diagrammatic sense is necessary to the pictorial sense (witness the strange swing of the pendulum from Impressionism to Cubism), and for artistic training the balanced development of both senses is needed. Art is an extra-intellectual, but not a non-intellectual, process. The use to the intellect of the art that goes beyond diagram making is less obvious. But every teacher of science knows that there is artistry in the true scientific imagination; and it may be inferred that sound artistic work develops this quality of the imagination. But

it is wise to make the artistic sense actually, as well as potentially, available for the advantage of the scientific sense, by making artistic work to a considerable degree illustrative of scientific work, beginning with the simple correlation, now so generally carried out, of brush drawing with Nature study. The direct correlation of artistic drawing with more advanced scientific work has obvious limits; but the writer has seen sketches of glass laboratory apparatus, rapidly drawn with white chalk and charcoal upon brown paper (it is remarkably easy to render the characteristic lights upon glass in this way), which gave an undoubtedly artistic representation of a boy's feeling for the concrete paraphernalia of an experiment. And there are many types of experiment that lend themselves to illustration in the drawing class.

The possibilities of connection between physical geography and the art work of schools ought to be too well known to need elaboration here; we would only put forward our usual plea for collaboration between teachers, so that the drawing may be carried out under the guidance of the teacher of drawing, not hurried through in the geography class. The history teacher, unless he happens to be also the singing master, does not teach his class the songs of different periods; such teaching is a useful adjunct to history, but it is given, when it is given, by the teacher of music, just as the literature of a period is studied in the literature class, when there is one.

None the less, the historian is wise to collaborate with the teachers of literature and music so as to establish the connection between the period and its art ; and they are wise to listen to his suggestions for the sake of the additional interest that will accrue to their work. Further, both language and history stand to gain by the elementary dramatic work that is now beginning to find a place in schools ; and there are the orations and "lectures," prepared and delivered by pupils, which are so well exemplified in Mr. Caldwell Cook's work, "*The Play Way.*" For this branch of art the teacher needs little more than a sense of drama and of style and—a point of first and last importance—a good voice and delivery ; since the art of speech is learned by imitation far more than by rule and precept.

As there is no exact dividing line to be drawn between artistic drawing and the making of illustrative diagrams, so the art work of schools, in general, shades off into the practice of various types of handicraft, valuable in part for the training that they give in the co-ordination of mental and muscular adjustments, in part because they develop a type of conscience that does not grow well, in children, upon intellectual work alone—the conscience, half artistic and half moral, which leaves the learner dissatisfied until he has "made a good job" of a given concrete undertaking. This, of course, reacts upon the corresponding type of intellectual conscience : an ill-cut, gaping joint, in wood work, is the analogue of an

ill-fashioned turn of argument in an essay, or of a sentence in Latin prose that is without grip or cadence. There is a certain simplicity and directness of mind, too, that goes with the shaping of concrete things. In this respect the morality of handiwork is good for both the intellectual and the artistic sense. There is such a thing as a soft and lax development of the artistic capabilities ; this comes not of artistic training, but of artistic temperament to which proper training has been denied ; but it is best avoided when the sense of workmanship is brought out through the use of concrete material. A final point ought to need no emphasis ; that the handicraft work of schools should be devoted to a great extent to the making of simple apparatus for use in the experimental work of the class. Here, again, collaboration between the teachers is called for, and it is a collaboration of the most elementary kind.

IX

It is unfortunate that in ordinary speech between parent and schoolmaster we talk of teaching the Bible as literature, or of teaching religious history, with the implication that we are neatly avoiding the teaching of religion. It would still more attract the agnostic, and repel those whose religion is only a bad habit, if we spoke of studying religion from the scientific standpoint. Yet no religious teaching can carry the mind as well as the emotions along with it

Religious Teaching.

unless it is integrated with the study of language, history and science. It is necessary to teach the Bible as literature if we are to give it for the future an equal chance with other books of being seriously studied and thought over, not relegated to the position of a curious mine of talismanic "texts." It is necessary to see the Jewish people and the Christians of apostolic times in relation to the general history of the world around them, or we cut off from the stories of two gigantic moral struggles more than half their significance. And it is necessary to show how religious inspiration, so far from "contradicting the facts of science," was able to anticipate, on grounds of conscience, many of the laws of man's advance that are now scientifically known—to make clear the unity of Kant's "moral law within" with his "starry vault without"—if the next generation is not to suffer another wave of materialistic thought. We have not disposed of Haeckel and the Divine Atom until we have shown forth a divinity who may be supposed to have access to the ordinary sources of scientific information.

To make religion a subject that can interpenetrate the other subjects of school study we need to be clear on the controversial question of dogmatic teaching. Doctrine can be kept for the divinity period alone, if that is the existing compromise; it does not follow that the existence of religion as a fact in human life must be disregarded in other classes. In the history of letters, the Bible has been

one of the great formative influences, and the literature class that does not study passages from the Bible is neglecting an essential part of its subject. Many of the poetical and prophetic utterances in Scripture make magnificent passages for recitation and reading aloud, and take a place that can be filled by no other example of the spoken word. Where the recitation class also does a certain amount of dramatic work it will be found that many stories from the Old Testament lend themselves admirably to dramatisation ; and the process is one that leads to the acceptance of these stories in the unsophisticated spirit in which they were written. The advocate of doctrinal teaching may reflect that this type of work gives body and background to a study of the evolution of belief ; while those to whom all dogma is antipathetic can wish nothing better (as, indeed, the dogmatist also should wish nothing better) than that belief should be considered in the light of its origins, and of its progress by trial and error through the mists of human fallibility and lack of comprehension.

Again, the mistrusters of dogma will demand that the influence of religion upon history should be taught without avoiding the dark corners—the intolerances, the inquisitions, the burnings alive ; and here the teacher of doctrine should be only too ready to encourage the distinction between the doctrine that enslaves and the doctrine that frees. There may be differences as to the type and degree

of enslavement ; there are sturdy medievalists who will have it that a Grand Inquisitor was a genial philanthropist compared with any of the later followers of Calvin; but even they are prepared to point out that the Grand Inquisitor, in the absolute, had his faults. And it is the chief negative duty of the doctrinal teacher to show that doctrine can be, and that true Christian doctrine must be, dissociated from the black cruelties of intolerance. History—not only the history of religious belief, but of the correlative social, political and economic creeds—shows the advance of man in so far as he can learn tolerance without losing force and virility of conviction. All this region of thought is the province of the teacher of history, if he is allowed to mention the fact that there have been times when Christians have been exceedingly bad Christians. He will have plenty of examples of good Christians for contrast.

Meanwhile the teacher of science, if he is concerned to teach upon a broad basis the discovery and interpretation of the workings of Nature, must be conscious of a certain insufficiency about his final term. Nature, for the purposes of the science teacher, is the Absolute ; or perhaps it would be truer to say that there are two absolutes—Nature, and the disinterested truth-seeking impulse that reaches out to comprehend it. To put the matter in very simple metaphysical form, he is concerned with a Thing and a Mind ; with reality, and with that in the young human spirit which wants to get hold of it.

Religion makes a unity of the two by interpreting Nature, the discovered and the yet-to-be-discovered, as the outgrowth into expression of a universal Mind within which ours and our pupils' are included. It is not the business of science to teach that there is such a Mind, but it is very much the business of science to leave the inference open ; and, especially, to give due weight to the fact that all knowledge has sprung from a belief that there is a scheme, an order of things, which only waits to be found out. The step from belief in an order to belief in an Orderer is the province of the theologian, of the divinity teacher ; but the scientist is neglecting his duty unless he is continually working out the conception of an order in the universe, and an order that, the more we know about it and the more patiently we investigate, corresponds the more closely to that which we regard as a moral order. This reasoned belief is the common fundamental of science and religion, as of all faith in the general proposition that life is worth while.

X

It might be said that our suggestions, so far, reduce themselves to the recommendation that every one should teach every one else's subject. This is true, in the sense that no one can teach one subject properly without teaching an outlook upon all knowledge, that is to say, upon all subjects ; but it is not true

in the sense that the foundations of the school subjects are to become vague and shifting. Still, we would prefer to change the metaphor, using a transition in accordance with the accepted change in educational doctrine, and to say that it is the roots of subjects, rather than their foundations, that must not only be left intact, but encouraged to plunge deeper. But the roots thrust deeply in order that the branches may spread more widely ; and it is here that our metaphor breaks down. For the branches of the different subjects interlace to vitalise and fructify one another ; and it is this process that we have been chiefly endeavouring to depict. At the same time, we have had something to say about the roots, to which it is the primary business of the subject teacher to attend. Let us now put forward a simple theory about that phenomenon of which we hear so much, the overcrowding of the curriculum : that it is nothing but the encumbrance of lifeless branches that have no effective roots. The separate dissociated sciences ; the separate grammars of different languages ; the separate foot-lengths of history that are called "periods" ; these are the things that aimlessly jostle one another. The roots of the subjects are comparatively few and simple. It is only necessary to cut out the dead branches, and to allow the live ones to bear their fruit on the other side of the garden wall—in our colleague's classroom—if it is in that direction that they naturally tend. Some of his produce will come

our way by the same law, and both will benefit by the exchange.

The great problem, the insoluble problem, as some would have it, that confronts the synthetic method is the provision of synthetic teachers. We have not got, and we do not seem likely to have, for some generations, a race of teachers who are prepared to take all knowledge for their province. One remedy has been continually suggested in these pages, a remedy that is to be found among the branches : the collaboration of teachers to work out the natural system of relations that is to be found between the main subjects of the curriculum. The “pansophical way” of Comenius may be impossible of attainment for every teacher, as an individual; but it will always be possible for any group of teachers who will try to teach as a community. This is a way that can lead to profound and far-reaching reform in educational method. Those who have tried it look back in wonderment upon the dreary and fruitless hours that used to be spent in the manipulation of dead examples and illustrations, when live ones were no farther off than the next classroom, and upon their hurried extemporising of work, such as the mathematics of science and geography, which should have been leisurely and profitably carried out in its appropriate class. The collaboration of teachers is undoubtedly the first stage in the development of the synthetic method, and fortunately it is a stage that can be approached by small and easy steps.

But this, even in its completion, is not all ; it is only promoting the right and natural growth of the branches. We have still to get down to the roots. And our teachers, if they need not be universal philosophers with every subject at their individual fingertips, must at least be philosophers each of one main subject or group of related subjects. That is not an extravagant demand ; but it is not an easy demand to fulfil, although it has always been the demand of education upon those who would really teach. We have not yet come to the end of the possibilities of co-operation in teaching : when the school staff begins to work as a whole towards the production of a synthetic curriculum, each member of the staff is stimulated to think out a simple philosophy of his own subject. It broadens our outlook upon any subject to see it in its natural relation with other subjects ; also, the process of staff discussion encourages every one, from proper pride, to make as much of the significance of his own subject as possible. (There will, no doubt, be some healthy rivalry and disputation before our synthetic teachers have fully discovered how to play into one another's hands.) But there is needed, besides, an individual effort of mind on the part of the teacher.

The first stage in this effort is to dig below the complexity of appearances, and to realise that the roots of subject teaching are few and simple. It will be a great help to have once allowed the branches to spread naturally, instead of keeping them con-

strained in a close tangle that obscures every principle of growth. We can then see that language teaching springs from one root principle, science teaching from another, history teaching from a third. But, again, there is the demand upon the teacher. To teach language synthetically he must know all the languages that are to be taught ; to teach science, all the sciences ; to teach history, all the histories of all the peoples ? Or, a demand that would limit our supply of teachers even more drastically, must he be endowed with a cast of mind that sees everything synthetically by the light of Nature ? These questions bring us to the real crux, from which many of us turn aside in despair, deciding that the synthetic method, if it is ever to come, cannot come yet. It is incumbent upon us, while we admit that it cannot come at once in its completeness, to show that it can come by a process of gradual and organic change, not only through co-operation between teachers, but through the not too difficult training and self-training of the individual.

XI

WE have spoken of an organised co-operation between the members of the school staff in order to realise, in practice and by practical stages, what is meant by the synthesis of subjects ;
The Teacher. we have now to speak of the task that lies before the individual teacher who would play his part with effect in such a co-operation. It will

already be clear that the teacher, in his own classroom, has some not inconsiderable feats of synthesis to perform. He has to break down, in his own mind, many of the smaller partitions between "subjects": to regard single languages not as subjects, but as part of a main subject called language; to view historical periods in relation to one another and to that whole which is world history; to see the sciences in that unity which is true science, or natural philosophy. But few will deny that it is absolutely necessary, for the vitality of education, that these feats should be performed. They only seem remarkable to those who have let their minds get into a state of subject-paralysis, such as we encourage when we ask for a teacher who knows, say, mechanics and the direct method of teaching French and, by implication, does not "know" simple organic chemistry, geography, or English literature—to confine ourselves to a handful of modern side subjects alone.

Indeed, it is the heads of schools who have the first remedy for the dispersion of subjects in their hands. There are the training colleges; but even when all teachers go through them, it will still be the school itself that is the principal training college. It is by far the easiest course for the head of a school to send for a teacher who "knows his subject" and, thereafter, to let him teach his subject as he has been taught it; but this is precisely the course that over crowds the curriculum with "cobwebs of learning, admirable for the fineness of thread and

work, but of no substance or profit." Also it is the way by which narrow subject-work is perpetuated, since the all-too-effective demand of the heads of schools necessitates a continued supply of mere subject-teachers, be the training colleges never so zealous to provide something better. The harder and the only profitable course is for the heads to demand not petty specialists, but teachers who are keen on principles and ready to make teaching the expression of principles ; ready to go to the roots, not to remain perched each upon his individual branch. It is the harder course, because it leads to a state of things in which the head must really administer the working of his curriculum ; and the head is sometimes a subject-man himself—and his subject is not education. But our suggestion is merely that he should make education his subject. The alternative is that he will have to administer not a curriculum, but a chaos ; and that he will have under him not teachers, but apothecaries of knowledge.

From the point of view of teachers, then, the first difficulty is to see their way to an effective demand for synthetic work. But they must also be ready with the supply that forces the hand of demand ; and in this the training colleges are more than ready to back them up. We would only urge upon those who are responsible for the training of teachers that they cannot dwell too often or too emphatically upon the work that every teacher can do—indispensable

work, however small the result of his efforts may appear to himself—to hasten the day of the synthetic curriculum. Every attempt to teach principles, and to link subjects together by the teaching of principles, must tell in the long run, however Fabian the methods to which teachers may be confined under existing dispensations.

But the ultimate necessity is the readiness of the teacher himself to endure the pains of thought in the cause of real teaching ; to read up his subjects with an eye, not only upon certificate and salary—though these things are important if he is to live to teach—but upon that connection and unification of subjects which is their life for the minds of the young. This, as we have hinted, is not a matter for the period of studentship alone, but for every stage of practice ; none of us knows, as yet, the full possibilities of the method that we are beginning to explore. But now the main crux is before us ; how are we all to become philosophers and synthetists of knowledge ? By feverish midnight hours of encyclopaedic study ? By becoming about ten times as conscientious as it is in the nature of any weak mortal to be ? The answer is very much simpler, and does no violence to the realities of human nature. The child is the real synthetist ; and by studying the actual needs of his mind we arrive, naturally and inevitably, at the method that makes a unity of knowledge. This open secret of all the teachers who have ever really taught is all the talisman that we

need. Almost the whole of the synthetic method can be evolved by the simple process of starting a subject, letting children ask what they want to know about it, and helping them to systematise their own questions and work out the answers. Any one who doubts whether they will land among the root principles of the subject or not does not know children, or has never won himself the position of the leader, rather than the drover, of their thoughts. We come home to a truism : the right curriculum, like everything else that is right in education, comes from the union of our minds with the mind of childhood.

XII

A FINAL question has still to be asked and answered. Are children really as much interested in generalisations * as we have been making out ? Are The Learner. they capable of tracing with us, not merely learning from us by rote, the principles in which the unity of knowledge is rooted ? If not, it is of no use to talk of simplifying the principles for them. If the framing of principles is the business of the adult and not of the child, let us drop all idea of making the child an imitation philosopher, for it will be a very feeble imitation. But in that case we must not only refrain from the project of teaching principles intelligibly : *à fortiori*, we must

* As Prof. Sonnenschein remarked in a letter to *The Times Educational Supplement*, I should have said "concrete universals"; but I feared to use so academic a term.

give up teaching them as we commonly do at present, unintelligibly : we must give up trying to teach them at all. There has, indeed, been some movement of late in this direction among exponents of " advanced " methods. The question is whether this is not emptying the baby philosopher out with the bath-water of used-up scholastic method. The question is, in fact, whether there is a baby philosopher at all.

These studies, and others that have preceded them, have been based on a conclusion springing from the writer's experience of teaching, that children are born philosophers. Many, as they grow up, achieve a contempt of philosophy from having a crabbed and lifeless notion of it thrust upon them ; but for the natural child the abstract idea, the soul of the facts, is the living reality amongst shadows. In children's play and children's stories the facts may be as wild as you like, but there is no tampering with principles. Quite young children want a philosophy of life ; and they want a philosophy of their own—that is, a philosophy of their own building. And as education brings knowledge to them, and makes knowledge part of their life, they want a philosophy of that knowledge. This is as true of the nine-year-old and of the twelve-year-old as of the adolescent.

Indeed, there is much in the way of abstract principle that children can best work out, in its simpler fundamentals, during that valuable period of mental limpidity which comes before the adolescent's task of finding a more personal application.

The word philosophy may seem a weighty term for the speculations of childhood. The word curriculum is a weighty term, for that matter. All that we are contending for is a treatment of knowledge that will enable a child to realise that which chiefly interests him about it : how it grows, and how it spreads, and how it fits together. As a matter of simple, practical method, we cannot teach effectually without this interest ; and we teach so many subjects dully, and teach them over and over again without making them stick, because we fail to evoke it. The purpose of the synthetic curriculum is to make this interest paramount, by making it possible for children to see how things fit together as they learn them. The other plan is to require children to learn things first, and wait to fit them together until they are older. This plan has been tried honestly, conscientiously, and for a long time, and it does not work. The things are learnt slowly and uncertainly and, in the great majority of cases, forgotten. There is little enough reason why they should be remembered. It certainly seems that, if children cannot put things together until they are "older," they cannot effectually learn them at all until they cross this somewhat vaguely-defined and ill-provided-for Rubicon of mental development.

Our real difficulty runs in a vicious circle. We are accustomed to hold generalisations in contempt—witness the fact that we nearly always speak of "a mere generalisation" when we mean a thin or

a faulty generalisation—because we ourselves were not taught to make generalisations real. The habit of mind is ingrained in “the neglected class,” to which we all, in greater or less degree, belong. The writer of “The Neglected Class,” * besides diagnosing our disease of contempt for thought, put forward one broad system of treatment : seek out principles, and teach them. There is another and a complementary treatment : to put ourselves under the tuition of the learner. Children have, as we all have, a natural taste for the unifying idea ; they have it in an elementary and a fanciful form ; but they have it in an unsophisticated form. Where we cautiously listen to one theory, they will joyously propound half a dozen, if we give them the chance. And we ought to give them the chance. We are cautious about theories because we are afraid they may turn out to be childish—“mere” generalisations. But our theories are likely to be childish as long as we leave the childish power of theory-making undeveloped. This is the power that we must add to our own if we are to make the synthetic curriculum a living reality, for it is upon the development of the childish theory of knowledge that the next generation will depend for its conception of the unity of knowledge, and for the harmony of its thoughts, feelings, and actions.

* This is the title of a valuable and spirited series of articles that appeared in *The Times Educational Supplement* in 1917. The neglected are those who are well, even amply, provided for in all but the things of the spirit.

PART II

THE ELEMENTARY COURSE

I

A CONCLUSION from experience has been put forward, in Part I., that young children take a natural delight in ideas; if these are taught naturally; and that their prospect of developing into thoughtful beings depends very largely upon the opportunity that is given them to think out, while they are young, the idea that knowledge is a unity and not a miscellany. It may be of use if we set out a draft of the teaching that is, or should be, possible under present conditions in the elementary school, with two definite objects before us: to show the connections that can be established by children between the different branches of their early knowledge, and to show how their simple root-ideas about the things that they first learn can be made the real groundwork of later knowledge.

There is some danger that the old formula of "a thorough grounding" may lose, instead of gaining, significance as a result of the doctrine of

originative activity for children ; that activities valuable in themselves and excellent for purposes of immediate development may yet fail to lead anywhere in particular. Recent psychological studies show how much that goes wrong with the mind can be traced to the mental history ; it should follow that by attending to the mental history we can make sure that things shall go right. What one's medical history is to the doctor one's mental history is to the psychologist ; and for that history education, and especially early education, is largely responsible. The more it is a history capable of being mapped out upon broad, clear lines, the better for mental health, and for consistency not only of thought, but of character. Development is continuous in any case, but it is possible to have development in inconsistency and its relative, inconstancy. One safeguard against this is an elementary curriculum that looks forward and encourages the child to look forward ; that gives an interest and an attraction to the future as well as to the present. It is this kind of curriculum that we shall try to define in the present Part, while endeavouring, as well, to make it a curriculum that is genuinely coherent within itself, not only to the teacher's mind, but to the child's. If we do not teach children to see their school work as a whole, we shall never teach them to see anything as a whole.

We shall not aim at novelty of subject-matter or treatment, but rather avoid it as much as possible.

The first step is to make the excellent elementary curriculum that is already in being more of a reality both to those who teach and to those who learn ; to draw it, as we might say, out of the sub-conscious into the conscious region—the collective consciousness which is the most important thing about a school. For this we need a stronger connection between the different activities and interests of the school, and an increased sense of the curriculum as a vista, a thing of purpose and promise. As a sketch of the available means, these studies will necessarily cover much ground that is already in different stages of cultivation, under different hands ; here again we shall be aiming at unities rather than novelties.

Following our former plan, we shall regard the teaching of the science and the art of language as one centre for the co-ordination of ideas ; round another nucleus—that of history—we shall group all the teaching that develops a sense of the past, and of the present and the future in relation to the past ; while knowledge of the present in itself, however humble in its presentation for young children, will come under the heading and lead up to a general conception of science. The most revolutionary suggestion we have to make is that these simple headings of language, history, and science, or others that are simpler and better, should be adopted in elementary schools. They keep both teacher and class aware of the main thing that they are doing in a given lesson, and give a preliminary foothold to the desire

to get one's ideas arranged—a desire that the youngest school-child possesses in rudimentary form, though we are apt to disregard it, and apt thereby to damage the earliest natural growth of his powers of thought.

Further, there is the wide field of elementary school practice—it would be wider still if supplies of material could be more generous—in which handi-crafts are pursued, both for their intrinsic educational value and for the sake of the intimate connections that ought to be realised by children between doing and thinking. These, in the case of young children, do not need to be classed under a special heading ; they should rather pervade every branch of work. There is a great part of every subject that a young child can learn much best with his fingers. It will be convenient for our own purposes, however, to give a separate heading to this subject, not so much that we may discuss it with teachers and those who are responsible for the training of teachers as that we may try to interpret their view and their demand to a few of those who control supplies and criticise time expenditure. The lesson of Froebel is not yet fully learnt, either in respect of the unities that were his end or of the activities that were his means. It is for the school to realise the unities, and for those who control the school from the outside to see the point of the activities and to realise that expenditure upon them can be a national economy.

II

**Words
and
Things.** A CHILD begins from his babyhood to learn the nature of things, persons and ideas ; partly through his own instinct, partly through the encouragement of his elders—a rudimentary kind of education. As he learns to talk, he is fitting a name first to this and then to that conception of a thing, a person or an idea. The most familiar and delightful presence of all is called mother ; a different one, of more doubtful import, is called father ; there is a small place called " bed," and a large place called " out " ; there is a state of harmony called " good," and a mysteriously discordant state called " naughty." Some names, such as big and little, good and naughty, shift about and get tacked on to other names that remain fixed to their possessors. Then there come words that do not seem to be names, but words for what you do or what happens ; these are unreasonably changeable, and you get them wrong. And there are a great many odd little words besides, that you find you can use to stick the other words together when they don't fit of their own accord.

This is grammar, as it is half-consciously realised while the baby becomes a child. Then, not so very long ago, he used to go to school and learn something called grammar that had no relation at all with these natural excitements ; something about substantives and verbs and adjectives, labels that explained nothing until he had learnt the rather uninteresting

word-game with which they were connected. Small wonder that grammar was a failure ; and small wonder that formal grammar has been so largely abandoned. But there is a real grammar—a grammar that is real to children. It consists simply in bringing to expression the ideas about words that are already stirring in their minds. It is a fundamentally mistaken notion that we must determine an age at which children may be considered ready to "begin grammar." They have begun it already ; and they are learning grammar all the time, either well or badly. We often think that children are not old enough to begin a study until they are old enough to memorise, if not to understand, an arrangement of it that is suitable for the adult mind. We think, in this instance, that they cannot touch the parts of speech until they can classify them all, a task not without difficulty for the expert. On the contrary, an understanding of the parts of speech, and of grammar in general, should be established step by step as the children are ready for it. Words, and ideas about the use of words, should be sifted out into grades, and the different grades distributed over the different standards.

To begin with, we can be satisfied to distinguish words that are names (there is no need, yet, to call them nouns) from other words. Then, things that are named can be distinguished from persons and ideas. You can leave a blank in a sentence, pointing to a thing or a person instead of saying the name ; you cannot do this for an idea. This is a first lesson

in abstractions. Formulated ideas, for children, ought to be exceedingly simple ; but they ought to be formulated, and the identification of words that express ideas ought to be one of the first steps. Its importance for their later thinking can hardly be overestimated. Meanwhile, as they identify the names of things they ought to be classifying things, as all children do by nature when they are left to themselves. This elementary classifying of things belongs to rudimentary science, and will be considered, later, under that heading ; but this is the place to notice that the first arranging of things in classes ought to be very closely and directly associated with the first arranging of words in classes. It is useless to separate the study of words from the study of things if we want either to be understood.

This point brings us to the words by which we actually do classify things, after the very simplest kind of classification, which is only putting things of the same name together, such as all the books, or all the pencils. Some names—most of them words for ideas—are sorting-names : large and small books, red and blue pencils, smooth and rough cloth, hard and soft stone. Here children begin to learn not only what adjectives are, but how to use them ; they begin to learn the comparative use of words. It is silly to talk of soft stone in comparison with cloth, or butter, but quite sensible when we are comparing a bit of chalk or sandstone with a bit of flint or granite. In connection with the handling of things

should come, also, the recognition of the words for that which we do with things ; and presently we are laying the first foundation of syntax by gradually getting the distinction expressed between subject, verb, and object. Gradually, for this root idea will not be introduced all at once ; it will be among the many realisations that the teacher has to study to bring stage by stage to the threshold of consciousness, till the idea is ready for statement and for the formulation of a rule.

An increasingly intelligent gradation, in accordance with the natural development of the child, is the essence of elementary method. The idea of language-structure that is built up, not from clots of formulæ, but from children's own use of words as they come to use them more precisely, is an idea that lasts because it lives and grows. Grammar becomes an interest instead of an infliction, and an interest that bears continual fruit in clearness of understanding. The practical difficulties of its connection with object work and rudimentary science are real, but they are merely mechanical and can be circumvented with a little thought.

III

IT has been suggested that a sense of words is important for every child, not only in itself, but in **The Grammar of Reality.** a close and clear connection with a sense of things and of ideas. Without this connection, worked out through a full and lively contact with things and a development of

the natural childish interest in an idea for its own sake, a fine sense of words might seem only an absurd preparation for literary dilettantism—no recreation, even, for the working majority. We have to mould and sharpen the tools of language, during the elementary course, so that they will be at the service of higher proficiency in the trades and crafts, the practical sciences, and those regions of civic and political thought in which uneducated democracy flounders so helplessly. And for this, manifestly a large task, we cannot seek out beginnings that are too early or too simple, provided that they are beginnings. We must teach a comprehending care for words from the very start, avoiding both the arid “grammar” that stifles interest, and the equally fatal neglect that leaves the sense of words to the subconsciousness, where it develops, so far as it does develop, in a perpetual blur and muddle. If there were no other argument, we could point to the fact that “subconscious” thinkers cannot discuss their thoughts, but can only assert their conclusions, and at cross-purposes.

We have touched, in the preceding section, upon the elementary treatment of words in themselves; a note or two may be added now upon “suiting the action to the word,” in the old phrase, or, more correctly, and more to our purpose, suiting the action to the sentence, and the sentence to the action. The teaching of verbal structure depends entirely, in its early stages, upon the reality of the connection that

is set up between doing and describing ; and it is this connection, rather than the " grammar " it may be used to subserve, that is really an essential subject in the early curriculum. It is set up in any case either well or ill, whether grammar is taught as a subject or not. It is not set up by mere parsing and analysis, hence the usual dullness and sterility of these exercises. It is either established intelligently, or left to establish itself " by instinct " as we say, or subconsciously, which means in this case obscurely. We intend no disrespect to the unconscious mind, but only to suggest that it cannot safely forgo its partnership with the conscious.

To awaken the indispensable sense of reality, it is necessary to go beyond the usual actions illustrative of the simple sentence ; but on this point we may note the value of dramatising, so to say, the action of the words themselves, by giving children *rôles* to fill as subject, verb, and object, adjective and adverb. This is more than an amusing method : it is an elementary introduction to the philosophy of words. When, for instance, the object-child becomes the subject-child, with the change of the verb from active to passive, the difference between the subjective and the objective is really brought home to his imagination, in a way that is significant precisely because it is so childishly simple. The changes undergone by a child who is cast for a personal pronoun have a like significance ; they lead him to think outside himself, which is the key

to intelligent discussion and intelligent reading. This leads up admirably to the whole of that which may be called the “put-yourself-in-his-place” method in teaching, and can indeed be combined with it when sentences are taken from the subject-matter of other lessons, thus giving wider scope to the bodily illustration of a mental act.

But illustration is not everything ; and the grammar of reality can only be taught by bringing every available interest to life in the teaching of sentence-structure. These interests are not a mere bait or appetiser. They are the substance of that real desire for satisfactory expression which can give the child a taste for words as for other tools. He becomes bored only, and very naturally, when the tools miss their function of shaping something real. The essence of grammar teaching is to start from a verbal job that wants doing, and to search for the verbal tool that will do it. A child learns to construct sentences by trying to construct simple epigrams—pithy, compact summaries of points taken from recent lessons in any subject, or from occurrences of interest to the school or the locality. He learns to handle clauses by the natural method of trying to fit subordinate points neatly into his sentence. He is thus, indeed, learning grammar “through his skin,” or sub-consciously, but he is also bringing it upwards into conscious and interesting formulation. He learns grammatical terms because he discovers the need to label his tools for convenience. When

the sentence is half made he calls out excitedly, " You want a —," and then stops short for a name, and values it when it is given.

This teaching does not lend itself to a prescribed syllabus, unless of the widest and the most general, or to the use of a text-book that has to be " learnt " a page at a time. But it teaches grammar ; and a good deal more than is commonly understood by grammar. It gives a central basis to the intelligent treatment of words, a nucleus of mental habit without which understanding tends to remain vague and impermanent.

IV

THE careful linking up of a child's sense of words with his sense of reality, such as we advocated in the preceding section, leads naturally to a **Reading.** choice of reading that will connect his sense of reality with his dawning appreciation and enjoyment of literature. For one thing, accuracy and appreciation go hand in hand when accuracy is made a genuine interest for the growing mind ; for another, a keen sense of the bearing of words upon the simple realities that they express leads to a further interest, highly relevant to the choice of reading material.

A child always asks, about anything that he reads or has read to him, " Is it true ? " We have touched, in an earlier study of school method, upon the significance of this question ; it shows the first workings

of his desire to distinguish fact from symbol, direct reality from pictured reality. Since the working out of this distinction is the never-ending task of the human mind, it is not unnatural that the child-mind should seek to begin the discovery of its own bearings in respect of Truth as soon as possible. And the beginnings of the quest have an immediate and practical meaning for the teacher. A child's reading ought to be quite distinctly divided into fact, fable, and fancy. Not that hard-and-fast divisions can be drawn ; in this classification, as in the classification of words and of things, we must always teach the truth that convenient groupings shade off into one another. But we can make our groupings distinct with an easy conscience if we make it clear that the distinctness is chiefly a convenience—that, while Jack the Giant Killer is a fancy that can also be regarded as a fable, David and Goliath is a fable that may also, very probably, be a fact. Gradually we can work out the real point : that the distinctions in themselves are absolutely definite, while the stories are often mixtures, and can always be taken out of one group and put into another, to see how they look there. The practical sceptic may be assured that this undoubtedly abstract point really appeals to children, and helps them to think simply and clearly. All kinds of muddles result from a haziness about the nature of fact.

Looking to the children's future, and to the mind that they will bring to bear upon the work and the

citizenship of later life, we may say that in their scientific view of things (which will affect their position as workers) they have to develop a keen sense of fact ; while in their historical view of things (which will affect their position as citizens) they have to develop a keen sense of fancy. The first proposition is obvious ; the second may look paradoxical. But citizenship depends upon ideals, and true and false ideals are true and false fancies. Political idealism is often engaged in trying to make fairy stories come literally true. Is it a far cry from this region of thought to the question of children's reading in the elementary schools ? If so, it is the schools that are at fault, and the results will appear in the democratic ideals of the near future.

It will be clear that in considering the position of reading in the elementary curriculum we are making the question, what shall be read, subordinate to the question, what shall be thought. This is the only attitude, in reading, as in other matters, that puts reform of the curriculum beyond the familiar criticisms of inertia which are represented by the words "tampering" and "tinkering." All growth of the curriculum must be justified as natural growth from within, not as grafting from without. Let us see what demand upon the subject-matter of school "readers" is made by the kind of reading that we have just outlined. It should contain the right proportion of scientific fact—"scientific," in the sense that the simplest facts, well arranged, are

science. The choice and arrangement of these facts must be considered in a later section. It should include historical stories, aiming rather at the presentation of a simple historical idea than at the fixing and nailing down with dates of an historical incident. The provision of a framework for this historical material must also be considered later on ; the point at present is that the stories should be read *as* stories, for the kindling of the imagination. Distinguished from these as being certainly not literal fact, but equally to be read for their meaning, fable and allegory claim a place for the thought that they contain, no less than for their moral or artistic value. A great deal depends upon holding a just proportion between these three elements, and it has to be seen to that "readers" representing all three are continuously and concurrently in use. A prolonged spell of bare fact, for example, is unfair to the imaginative child, and perhaps still more unfair to the unimaginative.

The importance of developing the art of reading, including the art of reading aloud, must also be insisted upon. We have dwelt more upon the material than upon the manner of the reading lesson, but it will be remembered that interest in the material is very largely dependent upon the treatment of language as a beautiful thing. Flat, toneless reading makes for flat, toneless thinking. The efficacy of the reading class can be largely judged by the sound that proceeds from the classroom.

V

Story and History. UNDER the old Education Acts it was not worth while to try to teach real history in the elementary schools, though the desperate attempt was often made ; under the new Education Act it will be worth while. We can undertake a history course which is not subject to the distressing alternatives of being cut short as soon as it has begun, or of being scurried through in a condensed form that is quite unsuitable for the young pupil. The first thing, perhaps, of which to make sure is that we adjust our teaching to the new scale of time ; and the first point to be fixed in that scale is the point at which consecutive history should be begun, as distinct from the establishment of childish interest in detached historical stories. The principle has been emphasised more than once that the transition from story to history should be gradual ; the beginning of fully consecutive method must be led up to by a steady drawing together of the subject-matter of stories, arranged more and more in sequence as the young pupil's time-sense develops ; but this is all the more reason why we must have a known point to aim at, a point at which the transition is to be regarded as complete. Otherwise there will be confusion between the elementary and the secondary courses.

It would be an easy simplification to leave continuous history to the secondary schools ; but this does some injustice to the mind of the older elemen-

tary children. These are at the stage when a valuable readiness for the simplest forms of systematic thinking begins to make its appearance—if the ground has been properly prepared ; and it would be the greatest pity if this time were to see no opening up for them of the historical vista. On the other hand, it is quite impracticable to start a continuous course at the end of the elementary period and to expect that the threads will be picked up neatly in the secondary course. This is to expect a degree of co-ordination between schools which is not yet in sight. Whatever continuous teaching was given in the higher elementary standards would simply be blurred by succeeding unrelated work.

Our suggestion is that the concluding stages of the elementary course should take in a very broad and simple study of world history. This may seem, at first sight, to be rushing into the difficulty mentioned in our first paragraph : if continuous English history can only be scamped and scurried in the elementary school, how hopeless will be the enterprise of tackling, even with increased time, the whole history of the world ! But the comparison does not really apply. World history can be taught with any degree of broad simplification, and remain interesting. The history of a country cannot ; it is too much dependent upon interwoven detail. A story of the chief civilisations of the world can be made interesting and memorable, for children twelve years old, in a single lantern lecture. Events group themselves in

large, distinct masses, viewed upon such a scale. The same thing can be done, less interestingly, with the "Ancient British," Roman, Saxon-Danish, and Norman periods of English history; but, as soon as these waves of contrasted racial influence are over, the subject "goes flat," and only detached detail, of the biographical or picturesque order will revive it. And then broad outlines disappear.

World history is the easiest consecutive history to teach—given the broad and simple knowledge which it is also easy to impart to teachers; and its advantages, for the child who is shortly to leave the elementary school, are obvious. It offers a timely extension of outlook, at a period when the young mind is eager to try its wings; it increases the likelihood that any later historical work will be seen in due proportion and time-perspective; and it correlates admirably with geography and with elementary humanistic science in a general co-ordination of the broad and simple aspects of knowledge, such as the conclusion of the elementary course ought to provide. But this general drawing together of the elementary material must be left for later consideration, when other regions of the curriculum have been discussed.

For the lower standards, meanwhile, the historical story can be given an additional hold upon the interest and memory in virtue of the promise that more will be heard, later on, of the people and coun-

tries concerned. The teacher, also, will find a motive for so arranging the scheme of stories that a given people or period—and, in connection with geography, a given region—is touched upon at recurrent intervals ; there seems to be little point in such planning with no goal in view. Not that the reading and recounting of historical stories should be carried out with a sole eye upon their ultimate " placing " within the broad outlines of world history ; they should also be connected with the interests of contemporary lessons, as with geography, Scripture, and (in the case of stories about the making and building of things) handicrafts, and early, embryo-scientific explanations of how things are made. Also, stories from English history will have a special place, and these will not be among the pictures designed for later arrangement in world-sequence ; they will rather be the seed of an interest in consecutive English history after the elementary school stage. But it is of very real importance that a child should begin early to know about the world, and to think about it as the world ; he will then have time to grow naturally into the kind of citizen who takes broad views. It may well be that in any given school the standard of comprehension will not be high enough for very systematic treatment of world history, even in its simplest aspects ; but systematisation is a matter of degree, and, at the least, a continuous series of illustrative world-stories can be taught.

VI

IT is blindness to talk about the teaching of science in the elementary school as though this were a remote

Everyday Science. and Utopian possibility. We are teaching science, well or badly, whenever we teach

children to classify and distinguish the simplest things, to form any idea about natural forces, or to think about the behaviour of any living forms. It would be upon such general groundwork that their reading and understanding of science would still depend, for the future, if the *Utopia* of some scientific enthusiasts were realised to the extent of, say, an hour's chemistry and experimental physics a week for the upper standards. And the virtue of the chemistry and physics would depend entirely upon the extent to which they were deduced from, and made to explain, everyday phenomena. Before we think of introducing elementary sciences it is as well to consolidate our groundwork of elementary science. This does not mean the introduction of any fresh work into the elementary curriculum, though it may very profitably mean the re-grouping of present work so as to bring the *principia* of science together, with the consequent discovery of many gaps that can easily and naturally be filled in.

The geography, nature study, and drawing classes, given a reasonable amount of care to correlate their activities, form an excellent basis for the beginnings

of science. It remains to bring into connection with these the embryo-scientific work of the reading class, upon which we have already touched. Also, before sufficiently fluent reading is available, there should come the first, simple classification of common things, in connection with the words for them ; this, too, has been mentioned in an earlier section, and should be so arranged as to lead up to a scientific grouping. The old-fashioned classes of "animal, vegetable, and mineral" are simple, while they call for a little thought on the child's part ; the last term is perhaps open to objection, but it will soon be replaced by "inorganic," with its subdivisions of metal and non-metal, while "mineral" is retained in its stricter sense. Meanwhile, the first classification leads at once to a healthy curiosity about the origin and manufacture of different objects, and this can be satisfied to the extent that the children's present power of comprehension will allow. Further questions of this kind will arise out of the stories in the school-reader that touch upon the making of things.

In connection with nature study, it is important to realise the perpetual changes of state that matter undergoes within living forms. This general notion can only be worked out by degrees, but it is of value, not only as bringing out the significant fact that the life and form of an organism are more permanent than the arrangement of matter which it happens to be using at the moment, but also for the later

understanding of much in agriculture and industry that depends upon the taking of a product at exactly the right moment. Country children, for example, should know what is the difference between ripe hay and grass "bents" that have been left till all the foodstuff in the plant has been dissipated or withdrawn into the root. Generally, the idea of matter as something that does not "stay put" nearly as much as it seems to is at the root of many important conceptions, theoretical and practical; and it can be brought out in very simple ways and by every-day instances, though a few experiments to illustrate such changes of state as solid, liquid, and gas, and other elementary phenomena of physics and chemistry, will be all to the good when time, teaching and apparatus can be found.

The primary forces of Nature, in the same way, can be distinguished as they operate in the simplest phenomena of weather and climate, land-structure and the movements of water—to take only one or two connections with geography. Children soon begin to inquire about forces, and naturally begin by confusing force with matter; this confusion ought to be cleared up from the earliest stage, even if no more than a first hint can be given as to the nature of energy. Later, the more obvious kinds of energy can be classified in simple terms; it takes very little time, and makes a world of difference to the comprehension both of immediate lessons and of natural process in general. The only need is

that elementary teachers should know what they are about, and not teach nonsense; this is a matter for the care of the training colleges. The arrangement of the syllabus so that lines of elementary scientific comprehension can be progressively followed will come naturally out of knowledge and interest on the part of the body of teachers.

Simple ideas about the behaviour of matter and energy lead to the problems of matter and energy as these are used and directed by life—if we can avoid a quarrel with scientific materialism by admitting that, scientifically, we do not know what life is, any more than we know what matter and energy are. At the least, it is a convenient and necessary generalisation in elementary teaching. Here we come into touch with the teaching of the laws of health, which ought to be a distinctive feature of all school work, and with ideas as to national and social health that belong to the elder children's understanding of history, as well as with matters like the growth of crops and industrial plants, and the food problem which is now providing so excellent an object-lesson. It is a matter of real and far-reaching importance that the unity of the laws of life should be made clear to children; and little more is demanded of the teacher than a desire to do this, together with the readiness which naturally follows to seize and draw together the instances that almost every lesson provides.

VII

WE have claimed to dignify with the title of "science" the very simple realisations that all children form about the nature of things and forces, because it is important to view these realisations as a whole, and to see that it is a well-arranged whole. No knowledge is too simple to be clearly grouped, and the small child who is preserved from muddle in his first and easiest groupings is laying unconscious foundations for the science that will be increasingly needed by the worker and the citizen of the future. It is worth while to consider what these groupings should amount to by the end of the elementary course.

The Scientific End.

It may clear the ground to suggest that the elementary school child has no business with either the vocational or the academic end in science. Both these ends are unreal to him ; there is nothing yet to which he can attach them. Understanding, for a child, means the understanding of a child's world, and of the grown-up world only in so far as this impinges upon his own. The scientific end, for a child of twelve or fourteen, is an understanding of the world as he sees it at twelve or fourteen ; this child is the father of the man who will understand the world as he sees it at twenty or at forty. At the same time a child can have his interests ranged and ordered in his mind without thereby making them inappropriate to his world, so that they cease to be interests. He likes arranging his collection of ideas, as he likes

arranging his collection of 'bus tickets, as long as it is his collection and his arrangement ; and to make it his collection and his arrangement is the chief object of all modern method in teaching. But we are rather apt to neglect the help that we can give; not only legitimately, but most usefully, and to the child's own profit and pleasure, by making his arrangements broader and clearer. We either neglect this, and think it natural that his ideas should remain scattered and disorderly, or else we try to impose adult arrangements and kill interest. The key to the right kind of help is a sympathetic understanding of the childish world. We have to suggest arrangements of fact and idea that will tally with childish interests, which are perfectly real and logical, and are destined to develop by their own natural gradation into adult interests.

It is a great thing not to despise crude and elementary interests when they are also fundamental. Children are very much interested in food—so are we all ; and the sorting of things into the groups of foods and not-foods, and of foods into groups according to their properties and effects, is both a useful and an interesting bit of simple scientific work. The subject, taken as far as interest will carry it, leads a long way into natural history, geography, childish economics, and the laws of health. Also, the ethical consideration is worth taking into account : the child who becomes interested in thinking rationally about food is drawn away from

a greedy and selfish interest in it. The same thing is true of a number of childish interests of the "young barbarian" order, which we generally leave to be catered for by the cinema and the story of sensational crime. It seems to be the fact that the child is, in some degree, recapitulating the mental growth of primitive man ; and it is certainly the fact that the young primitive, in civilised society, shades off easily into the young criminal. But it is possible to take his interest in crime and turn it to good account by awakening in him, not the young criminal but, so to speak, the young criminologist. We can sate his appetite for Homeric tales of piracy and combat by picturing for him the life and struggles of real barbarians of the primitive age, and lead him at the same time to see that their behaviour belonged to its own day and is out of place in ours. Stories of primitive man have their obvious connection both with science and with history ; there is also the interest, and the very sound moral advantage, of identifying him with the hooligan. It becomes respectable to play at being a Red Indian or a cave man, but a dull and decadent amusement to play at being Jack the Ripper.

These two random examples may illustrate the type of interest that must always enliven our teaching of embryonic science. For the general sense of arrangement that we want the children to possess, it is most important that such interests should be properly related to one another ; in our two examples

the relation of primitive man to his food supply and the development of stealing for livelihood from a form of valour to a form of crime can be brought out. It is a great mistake to think that you teach children to condone evil when you teach them to understand why it is evil ; and this understanding, in connection with other simple bearings of natural impulse upon social life, is perhaps the most important foundation of all for their view of the world they have to live in, as sociology is perhaps the most important of the sciences.

VIII

THERE is one respect in which the vocational and the cultural demands upon the elementary school obviously coincide. To produce capable **Handiwork**, and intelligent craftsmen or operatives continuous training in the handling of tools and materials is essential ; it is also essential to ensure the right rhythm and interrelation between the development of mind and of body. The only divergence between the two claims is fast disappearing. It used to be thought that a particular, rather than a general, proficiency must be the aim in any work of a vocational trend ; we now know that a boy of twelve does not learn joinery by learning to imitate a set series of pattern joints—he only learns to dislike woodwork. As with the mind alone, so with the partnership of mind and muscle : we saw that a child's science must be the science of a child's world, and a child's craftsmanship must be the crafts-

manship that can be connected with the interests of his particular period of life. His keenness—the most important thing about him—can only become a keenness on the daily task of the future by being developed as a keenness on the daily tasks of the present.

Pedagogy, meanwhile, has learned a similar lesson : the most adequate prescription, psychologically speaking, for the training of hand and eye, may fail completely because it does not touch the imagination of the child who has to carry it out. It is only sound in the context of an adult psychology which he does not understand, and therefore it does not bring his vital faculties into play. These negatives are clear ; but what we still seem to lack is a positive rule for education in the sense of craftsmanship. The principle that handiwork must be allied with the interests of the learner's present phase of development is useful as far as it goes, but we require light as to what these interests are, or should be. Perhaps there is most promise to be found, at any rate for a beginning, in an alliance with the mental interests of the schoolroom. These, certainly, require the accompaniment and support of manual activity to any extent that can be devised ; and in general, the more the thing-making and the thought-making faculties can be run in double harness the better.

A full acceptance of this aim alters the demand upon authority for educational "apparatus." It becomes a demand not so much for apparatus as for

materials and tools ; and this may prove a demand that will be more readily conceded than the other. Without being at all in love with the check that is maintained upon education by "the dead hand of amateur control," we can trace the workings of common sense in a mistrust, though it be an ignorant and even a parsimonious mistrust, of ready-made schoolroom machinery. There is something about its ready-madeness that suggests unreality ; and there is often justice in the comment that it represents only the pedagogic fashion of the moment. (An æsthetè among the critics may also have something to say about yellow varnish.) But the true criticism is educational. What is ready-made is dull ; it stultifies the imagination ; in particular, it denies all activity to the constructive imagination. We might even urge, on purely pedagogic grounds, that no apparatus at all should be used in a school that has not been made in the school ; and that what the school cannot yet make, it is not yet qualified to use. This, however, is to distinguish apparatus, absolutely, from tools and materials ; and the distinction is by no means absolute. A reasonable rule might be that the children should at least have a hand in the making of all apparatus, if only in the putting together of parts ; and that no parts should be ready-made that their own workshop could have produced. But every possible stimulus should be given to the invention of home-made devices, so long as these are not allowed to be ram-

shackle and unworkmanlike. The simplest and the most homely device is often the best. The rainfall measured in a bottle that has had a scale painted on its side, in school, seems more real than that which is collected in a graduated jar ; the latter is a bought magic, in which anything might happen.

The children should certainly have " their " workshop without class distinctions, in the sense that one class should make, or help to make, apparatus for another, and should take an interest in its purpose. The workshop and its equipment, to begin with, may be an extemporised affair ; and its existence in any form will be a centre of interest for the children, and a meeting place for the interests of different classes, besides furnishing the most telling claim upon authority for help to realise the project further. There is no argument that so reinforces a claim for help as a display of initiative. And meanwhile, the exercise of inventiveness in thinking out makeshifts, besides appealing to the Robinson Crusoe instinct, will be the best of preparations for the respect that should be paid to proper equipment as it comes. Even to desire vainly, for a time, the means for making what one wants, is an educational step above a vain desire for the thing itself ; and the effect upon children's minds of seeing a common desire, a social desire, brought to its most reasonable expression, has a value beyond that of seeing many cases of the most delectable tools and appliances set in order for them.

IX

GIVEN some approximation, however rudimentary, to a school workshop, a clearing house for the principal handicrafts connected with class work (and it is remarkable how the whole question of handiwork is broadened and simplified by being brought to a common centre), we can discuss the connection of the activities to be carried on in it with those of the classroom, and of both with the arrangement of ideas that has been suggested as the notional framework of the elementary course. The development of the child's sense of language stands outside any detailed connections with handiwork, though it is never to be forgotten that verbal explanations in the workshop are as much a part of our language-teaching as any other use of the spoken word, and may, indeed, more than probably have an especially direct influence on the childish appreciation of phrase. Workshop talk has to be of a careful lucidity ; and lucid explanation of what is done, and why it is done, should be asked for as well as given. But correlation, in any detail, will be established chiefly with the group of ideas that we have placed under the heading of " science " ; and, in a lesser degree, with the illustrational side of elementary history.

Much will depend upon the equipment of our " workshop," which may at first be no more than a play-shop, subsisting chiefly on makeshifts and hopes ; but a few general suggestions can be made.

The beginning of science is measurement; and it makes the greatest difference to a child's understanding of measurement if he has contrived even the simplest kind of measuring apparatus for himself. This also helps greatly to encourage the arithmetic that is done sensibly, by thinking of the quantities concerned, rather than in the muddled state that comes from thinking only of the figures and of the rule of thumb that will produce an "answer." Concrete things are essential, in any case, to establish concepts of number and quantity—and not only as counters; sheets of paper, for instance, perforated like sheets of postage stamps by means of a toothed wheel and a ruler, are most useful in teaching elementary factors—but a special virtue attaches to things that children have had some hand in making. Just as the "stick boat," in Sir James Barrie's study of the coasts of the Round Pond, is more of a nautical reality to a child than the best-found model yacht that money can buy, so the trifles of matchwood or cardboard that school children have shaped for themselves, however fumblingly, are more arithmetically real to them than the most ingenious "objects" that they receive ready made. We have to remember that it is actual reality that inheres, for them, in things of their own contriving, and it is their own sense of reality, as we find it, that we have to educate, not to dismiss as babyish fancy and dreaminess while we try to substitute reality as it appeals to ourselves.

It would be absurd to say that every ruler, for example, must be made by the children themselves ; but it is a sound regulation that specimens of every measure should be made, as soon as the given quantity comes up for consideration in class. Besides the visual and tactile associations that make a quantity real, the act of making, in itself, gives reality and exactitude to the idea of extension in space. The workshop develops the "instinct" for quantity—the power of "measuring up" by eye, which a bricklayer gains through the handling of bricks—while the arithmetic class brings the instinct to expression in figures ; and then the figures mean something. In the same way, a geographical model of the school district, for which every child prepares some part—a hedge, a block of houses, a representation of a park or pond that will be stuck on in its proper site—aids the power of seeing a place whole in the mind, and leads up to the power of seeing a map as a picture that reveals something. Many such activities can be carried on in the classroom, but they are unavoidably cramped there ; and also it is a good thing to distinguish the actual making of an object from the discussion and planning beforehand, and from the illustrative use of it afterwards. A change of *venue* keeps the child's mind much clearer as to the purpose of the things he is doing, and gets them into a distinct relation, rather than a jumble, with the things he is thinking.

It is easier to write of handiwork as an aid to

exactitude of mind than as part of the training of imagination, because we are slow to learn that the imagination is, for its own sake, worth any expenditure at all of school time, particularly when the time is spent in bringing the image to concrete expression. Yet we know that imagination must be evoked if a historical story, for example, is to become real to children, and that the story must come to life for them if it is to be of any use in developing their historical sense. All this, however, tends to seem reasonable only as a matter of talk ; to make a childish model of a primitive village, or of a baron's castle with its appurtenances, at once suggests to the practical minded that time is being wasted in mere play. Every effort has to be made towards the gradual overcoming of this idea, because the union of imagination with practical understanding—and, we will dare to add, the union of play with work—is most essential to the health, in the sense of wholeness, and to the vitality of the mind. It is perhaps best, for the education both of the child and of the "practical" critic, to work out every possible means of making imaginative handiwork conduce also to accuracy in education. That the connection between imagination and accuracy can be established is a matter of experience ; it can be established by seeing to the connection between exact making in the workshop and exact thinking in class, thus giving scope to the child's own very insistent desire that what he makes shall be true to

what he thinks ; and in no other way can we improve upon the merely local accuracy—marked “not transferable”—which is conferred by rule of thumb.

X

BROADLY, there are two aspects of physical training of which only one is in the strict sense educative.

Physical Education. There is muscular exercise, arranged to counteract the prevailing deficiency of

natural exercise—running, jumping, climbing, wrestling—or the ill effects of “civilised” hampering—constrained positions at the desk, bad clothing, clumsy boots ; and there is the activity that cultivates the natural rhythmic interplay of body and mind, in addition to the value that results, as we learn in practising the methods of Froebel, from well-conceived handiwork. We grope towards this, the real end of the physical training that aims at the development of a complete human being, in very faint emulation of the Greek “musical” system, for which “rhythmic” is perhaps our nearest word. And we grope the more fitfully under pressure of the knowledge that this is the last value which any one will be persuaded to regard as practical, when we speak of life-equipment for the young proletarian. But this is the value that attaches in rudimentary form to our little action songs and musical drills ; and if we can point to classes that are brighter, more alert, and with more stamina in their keenness on account of these activities—as we undoubtedly can—

—we justify our demand for time, and for a piano, on a thoroughly sound practical basis.

The necessary type of physical training which we have just classed as counteractive or remedial needs to be recognised as the artificial means that it actually is. We have to get physical exercises carried out with zest, if they are to do any good ; and we have to develop, through them, a healthy habit of body and mind that will last. The exercises are dull in themselves, and we have to rescue them from dulness by awakening an interest in their purpose. There is some attraction, based on the rhythmic sense, in any movements carried out smartly and in concert, and some pleasure (chiefly for the stronger children, who stand less in need of help) in the physical glow and stimulus that follow ; but these are not enough to make the work as wholehearted as it can be made. And an educational interest, which is also a health-motive that will remain in later life, can be attached to the daily drill. Children can learn, in connection with the health lessons that should be a continuous element in their early approaches to science, what it is that physical exercises do for the circulation, the breathing and the nervous system. To begin with, this knowledge makes the exercises more effective for their purpose, as professional experts in physical culture have learned to impress upon their clients ; but it also gets the idea of purpose into the minds of the children, so that as they grow up they will be the more likely to recognise and provide for

the body's need of regular re-invigoration. Otherwise, when the particular exercises stop, the habit stops, because it was only a habit of performing those exercises on being told to do so.

Further, the development of the children's idea that health, in our largely artificial conditions of life, is a thing that has to be defended by reasonable watchfulness and precaution means the development of a common care for health, along the lines of sanity and not of hypochondria, which is badly needed in modern communities—witness the vast annual expenditure in patent medicines, and the annual acreage of their advertisements. Here we have a true and a highly important educational value, the realisation of which would do a great deal towards the reform of society. But this value is not attained by health lessons that remain a matter of information only, or by exercises that do not exercise the understanding as well as the muscles. It is part of the law of connection between doing and thinking that health lessons gain reality in proportion as they are brought into a fully explained association with everything that is being done in the school for the sake of health. This does not mean a continual harping upon hygiene, which bores children, and ought to bore them. It can be effected with very little talk, and no fuss, by simply telling the child what he is to do a thing for at the same time as you tell him how to do it, just as you tell him what he is doing a simple experi-

ment for at the same time as you explain how it should be done.

It might be maintained, as against the views of some apostle of eurhythms for the million, that we must learn to walk before we can run—or dance ; that we have to develop the Hellenic sense of health before we try to reproduce the Hellenic joy in the poetry of motion. But the human faculties are interdependent, and can be developed apart from one another only to a strictly limited and a somewhat useless extent. The æsthetic faculty, in however rudimentary a form, can only be left out of physical education at the cost of dulling that education and robbing it of vitality. Besides, the best physical education is unself-conscious ; the less we have to think about our physical processes the better, though it is most important that when we do have to think about them we should be able to think straight, and to think naturally. We must not postpone our use of action-songs, illustrative dances, or any other means of rhythmic education that are to our hand ; rather, we have to improve upon them—to get a little more reality and sense into them, without making them unchildlike. It is strictly Greek, and strictly sensible, to let a children's dance illustrate a scene from history, and to let the children invent the dance ; and many other connections with school interests can be thought out. An arithmetical action-song, for example, can be made both amusing and pretty and, in all seriousness, a genuine contribution

to the rounding off of the mathematical sense. And in general, all connections that can be set up between the rhythmic and the intellectual, by way of the dramatic faculty, have an interest value which we cannot afford to neglect.

XI

THROUGHOUT the foregoing sections the condition has been implied that there should be an effective correspondence between the different subjects and methods pursued in the elementary course, not only a correlation of subject-matter in detail, but an organised unity of plan which produces one course of development rather than several divergent courses. We have discussed both the principle and the general practice of this in Part I., and though the matter is fundamental enough to bear many workings out in different aspects, we will take its general importance as read, confining ourselves to a few special applications for the elementary teacher.

Making Things Fit.

It is easiest for the head teacher to begin by planning one continuous main line of instruction, not in order to make other lines subsidiary to it, but in order to focus the effort for continuity in one place at a time and so to make it more effectual. The line that most requires straightening, if it has been drawn at all, is the line of sequence in the subject-matter of reading lessons; and the writer has found that the simplest way to straighten it is to set down the

chief things the children have to learn in all branches of their work, and then to see that each is represented, with a frequency determined by its relative importance, in the reading material of the class or in the discussions that arise out of the lessons. In default of an ideal abundance and variety of good school "readers," this is a task that calls for some ingenuity. But it is also a very interesting task, and, with increasing experience, the arrangement of the available reading material becomes an artistic pleasure to the arranger. The first considerations, we have already suggested, will be a well-thought-out sequence of historical stories and a series of readings that will build up the child's early general notions of science. So far a moderately good selection of existing "readers" will meet the case. Geography also, related both to history and to simple science, is fairly well catered for. But the search must not cease where the obvious supply gives out; this is where the opportunity for invention and the chief interest begin. When hooks and eyes are not to be found ready made they have to be contrived; and the principal contrivance is to discover and note the points at which the "reader" offers scope for a fruitful and, equally important, a relevant digression.

Suppose the head teacher is working out a series of readings connected with simple science—preferably in collaboration with the teacher who is to conduct the work—and has on his list, among others, the sub-headings of health lessons, Nature study, and manu-

factures. (Our choice of divergent subjects is intentional.) He can find enough about manufactures, we will say, in the available "readers"; something, but not enough, about Nature study, and nothing that touches directly upon health. But he can note, in an account of this or that manufacture, the mention of some animal or vegetable product that is used, and indicate the opportunity to ask where it came from, and under what conditions; or, again, he can mark the opportunity to compare one industry with another in respect of health—one providing a healthy life by its nature, another having its dangers to health for which safeguards can be discussed. In a similar way every reading can be made to furnish some link with other interests. The links are small; none of them need take long to elaborate, and for many a momentary allusion will suffice; but their cumulative effect in promoting a unity of the understanding is immense. It will be readily seen that if this process is carried over the whole course of the reading lessons we are well on the way to a unified line of advance. It takes trouble, like everything else that is worth doing; but the trouble is repaid in interest, and in the removal of that strain upon the educator which comes of the continual effort to force dull work along. Interest and vitality in a school are largely achieved through many-sided interests and their free expression.

Meanwhile it will be found that a well-planned sequence of reading, with links of interest plentifully

supplied (and many more than are on the programme can and should be suggested by the children themselves), has done something to pull the other lessons together and to give them sequence and purpose. To dispose of the other two R's in this matter of connection building, we can note that there is some point in writing out a sentence as beautifully as possible when the sentence is one of those classroom conclusions which have been brought to the grammar lesson for neat and thoroughly understood expression, and then to the writing lesson to be put permanently on record ; and we can re-emphasise the importance of making arithmetic deal with the many simple problems of quantity that can be extracted from or associated with the subject-matter of reading and other lessons. Both writing and arithmetic follow a fairly clear, predetermined sequence of their own ; and this is not weakened but fortified by the provision of a continuous bond of union with the child's general activity of concept-building.

Of other elementary " subjects " it will hardly be of use to say more, as regards the question of sequence and continuity, than that the principle of studied lines of advance, with plentiful links of intercommunication, can be followed out upon the analogy of our reading-class work. It will be seen that the reading sequence contains the germ of a whole system, and that experimental work in science, for instance (to take one of the more Utopian dreams of the reformer), if it can be made continuous and

systematic, can also be made full of interesting connections both with reading and with any other line of advance that we may be able to establish.

XII

We spoke, in the first section, of a drawing together of the elementary material that should leave the learner equipped with "a general conclusion. ordination of the broad and simple aspects of knowledge, such as the conclusion of the elementary course ought to provide"; we may now consider what the total should comprise, so far as it is possible to be definite, considering the wide difference at present between the teaching and learning capabilities of different schools.

In language the characteristic uses of words (as noun, verb, and so on) should all have been realised. This is our end in elementary word-classification; not that any word, in itself, can be labelled—many words need four or five labels—but that any word in a not too difficult context can be classed by what it does there. The child then has the uses and values of words grouped so as to aid the expression of thought; the difficulties and interesting ambiguities of form-classification he may or may not study later on. Clear, expressive and well-modulated reading should have become natural through the desire both to take in and to give out the full meaning and interest of the thing read; and in the same way, good writing should have become the valued means of

fixing a thought that has been found worth thinking, formulating in clear language and putting on record.

In history a progressively coherent sequence of stories, connected with the reading activity, should have laid a triple foundation. First, there are stories that will have been "placed," in the upper standards, within a very broad and simple framework of world history, viewed in picturesque groups of events and in association with historical geography. Second (but these divisions are not mutually exclusive), there are stories that will have been connected with first ideas in civics, and in the general art of social behaviour. Third, there are stories that will have sown the seeds of interest in English and, we may hope, in European history—seeds whose further cultivation, in fully consecutive history, will be the work of the secondary and the continuation school. The reasons for putting simple world history before the fully consecutive history of a country were discussed in Section V.

In the wide field of elementary knowledge that we have included within the hospitable boundary of science the child should have a working idea of thing-classification, well correlated with his equipment for the handling of words; and this should consist, broadly, in the habit of mind that traces things to their origins in the organic or the inorganic world. The habit makes it natural always to inquire about the process by which a thing has come to be what it is, and a natural tendency to such inquiry is invaluable.

able in later work, and in life. It should already have inspired, in conjunction with other interests, and especially geography, some search for an explanation of the forces of Nature, with a first classification of these in simple terms, and an effectual wish to understand mechanical and industrial processes. The different forms of life need not have come in for any intensive classification ; rather, the conditions favourable and unfavourable to living forms should have been considered, dwelling especially upon the great principle of interdependence and co-operation, and upon the primary laws of health that affect men and societies. We have here a region in which many types of elementary knowledge are drawn into a unity.

From a number of the foregoing interests material should have been sought for arithmetical treatment, so that the mathematical sense may grow in its proper association with the other faculties. For the same reason arithmetic should have been kept in close connection with handiwork, which has its interest, and its special rounding-off of the faculties, to contribute to nearly all the class-room subjects in one aspect or another. If possible, the activity of handiwork should have had its secure centre in a school workshop ; the psychology of this is still more obvious when we look to the future of the elementary pupil. The manual shades off into the artistic activity ; and we venture to promise that the more the artistic faculties have been developed,

both for their own sake and for the interest and the illustrational help that they can bring to the routine work of classes, the more intelligent and the more whole-minded the pupil will be found to be. Moreover, there is the connection of art on its rhythmic side with physical education, which gains greatly by association with the study of health in our simple science lessons, so that bodily training develops as a habit of purpose and not merely as a habit of doing, but cannot expand into its full influence upon the health and happiness of body and mind without some approach to the Greek expression of joy in the union of purpose with function.

In so condensed a summary, our programme may appear formidable ; but it will be remembered that what we have here crowded into a brief section, as a conspectus for the adult mind, will have been worked out little by little, over a term of years, through the small personal discoveries and illuminations that are the natural life of a child. We need only try to see the ends of child-life, and try to adjust our method to its actual and manifest needs of expansion, in order to find at our side an adolescent fully prepared for the duties and responsibilities of his further growth without having lost, but rather having gained inexpressibly, in the power to put heart and soul into the eternal present that remains the most vital concern of youth.

PART III

CONTINUATION COURSES

I

THE aims of the continuation school must be high while its methods are kept very broad and simple, if we are to found a national system that will grow under our hands with the growth of experience and opportunity. We can afford no smatterings ; and we can afford no intricacies. The first step, if we are to discuss the continuation curriculum to any purpose, is to find one formula for the need of the learner—the “ young person ” of the Act—which is a need for development and training, and the need of the community, which is a need for good workers and citizens. But if we attach a wide enough meaning to the terms “ worker ” and “ citizen,” they may point to the prime needs of the pupil no less than of the community. We want good workers, in the sense that we want every one, without class distinction, to be able to do the best work of which his developed powers are capable, and this is largely the secret of a full and happy individual life ; and in wanting good citizens we are aiming at

The First
Needs.

the completion of that life by adding to it the power of effectual fellowship. If there is any danger that our "worker and citizen" formula may acquire a Prussian sense, the remedy is to insist upon its wider, humanistic aspect, and not to allow it to be set in any false opposition to the humanistic ideal.

As our curriculum will regard the individual as something more and better than a docile implement for industrial and national ends, not by denying these ends, but by going beyond them, so it will cut across the often useful, but often arbitrary and misleading, distinction between vocational and non-vocational training. The worker will be a better worker, more likely to find the work that he can do best and to do it with interest and vigour as well as with precision, if he is trained to a wide understanding of the nature and purpose of work, not only to a particular, narrow proficiency. The citizen will be a better citizen for having a vocational as well as a general training, provided that the two are made one for him and that he can see the responsibilities and interests of the particular task in relation to those of his citizenship. It is implied, in the title that we have given to this Part, that distinct courses, rather than a completely unified course, are as much as we can at present indicate for the continuation curriculum. It is no use to put forward the ideal of a unified scheme before it can be realised; and we have enough to do, for the present, to find the right teachers and to get them started, each upon a single

line of profitable work. But we can avoid the main pitfalls of divided aims, and look forward to the synthesis of method that must come later on ; and the most obvious requirement is that we should not allow the vocational aim to develop apart from the general pursuit of knowledge and understanding.

It is upon the courses of teaching which may carry out the general, non-vocational aim that these studies will chiefly dwell, since vocational courses must vary widely with different local conditions ; but the two types of training can only come to full life in connection with one another. What object-work and handicrafts are for the child the beginnings of vocational work are for the adolescent—his points of contact between abstract and personal reality. We shall try to indicate every connection that can be made for the learner between the abstract and the actual, so far as this can be done without entering into elaborate detail ; and we would suggest as a guiding aim, and as a first and very necessary step towards an eventual unity of method, that the teachers of general and of technical courses should be encouraged in every way to help one another out—that each should make some effort to keep in touch with what the other is doing, and should draw upon his colleague's work for continual reference and illustration. Speaking very broadly, we may say that the one is training the pupil as a worker, the other as a citizen ; and the one has to bring out, through the actual interests and associations that

are ready to his use, in the learner's mind, the relation of work to citizenship, the other the relation of citizenship to work. All opposition of technical to general training only obscures these essential relations, and results in a life that is lived in a dual world, with a dual personality, and in all the dangers and discomforts that arise from having one's nature divided against itself.

The suggestions that will follow for continuation courses can for the most part be worked out under the threefold division of local, national and international interests. It will be clear that a just proportion of emphasis upon each of these interests, and a careful study of the relations between them, are among the prime needs of education for citizenship ; and also that this mental grouping of our subject-matter should help towards a broad and a socially right conception of work, by relating the work of the locality with that of the nation and with the world's work as a whole. This is a very elementary plan for getting structure and sense of purpose into the continuation curriculum, and it obviously stands in need of much amplification ; but for the present we must be prepared to sacrifice a great deal to simplicity and breadth. And it cannot be too strongly insisted upon that some plan we must have if we are to educate as well as to instruct ; while we have nothing ready to our use in the form of the traditional aims, such as they are and such as we half-consciously realise them to be, that somewhat

fitfully inspire our secondary school work. Continuation work starts upon an almost blank page, and we have to see in advance the spacing and arrangement of that which we are going to write there. An arrangement in terms of service and citizenship, viewed from the standpoints of home, of country and of humanity, is at least fundamental, and should lend itself to further development as time goes on and experience shows us our more detailed requirements.

II

ONE of the first aims of continuation work will be to enable the learner to read for himself with profit

The Science of Reading. and understanding. The question is gradually coming to the front in secondary work, whether more attention should not be paid to training in the use of books of reference—and, in a sense, all serious books are books of reference—whether, in fact, it is not better worth while to train the power of finding knowledge as it is wanted than to impart knowledge which is likely to be forgotten before it can be turned to any fruitful purpose. In the continuation school the question is simplified by the fact that there will not be time to impart a compendium of knowledge, even if we suppose that the compendium would be retained as permanent mental equipment. Any attempt to drum in a maximum amount of information during the 320 hours will inevitably fail. We have not to teach

facts so much as methods: methods for finding, digesting, and making use of facts. The methods of finding come first; and of these reading is the ultimate resource.

First, we may consider what interests, in the pupil's mind, we can discover and build upon. Experience has shown, in such voluntary continuation work for the adolescent as already exists—in an institution like Morley College, in South-East London, for example—that a strong interest is ready to be evoked in anything that touches upon social science. The desire to grasp social conditions and causes appears to be a good second, even in those whose prime motive is the wish for some wage-earning proficiency rather than for self-development in the abstract. It is to be remembered that these are older adolescents, beginning almost where the continuation school will leave off, and that some of them have been at secondary schools; also that they are at work with adults, whose wish, on the whole, is more for intellectual interest than for equipment; but our data at least show what is there to be evoked by suitable treatment and atmosphere. The voluntary interests of the pupil follow the lines that we suggest as desirable both for himself and for the community: his lines of development as worker and as citizen. This does not mean that he can, or should, be encouraged to read nothing but technology and civics; rather, it points to a manner of teaching that will draw together a representative

variety of reading material around the main ideas of service and fellowship.

We then have an objective, wide enough to take in a great body of educative reading and distinct enough to give it unity of purpose ; this is the first requirement, if the pupil is to look upon reading as the source of something more than information and amusement, and is to turn to books for the real food of the mind. The next aim must be to develop a regard for reading as the pupil's own activity—his own rather than the school's. As we have said, there will not be time enough for an extensive study of books ; and intensive subject-work is the business of other courses. The reading course has to get into touch with the actual reading of the learner, and to raise that activity to a higher pitch of understanding and appreciation. But it will not do to make any demand upon out-of-school reading that will put it in the position of homework. The continuation teacher must always have his eye upon the leisure hours of the pupil, but never in order to encroach upon them. The best method is to start with a discussion of what the class, on the average, actually does read, and to get the pupils interested in the question of what they read for. This soon brings in those who scarcely read at all, because it makes them anxious not to feel out of the discussion ; they begin to read what their neighbours say they enjoy. Meanwhile, the teacher must not frown upon any of these confessed enjoyments, but must try to

develop the appreciative faculty of which they show the rudiments. Nor should he be too ready, even, to extol the more serious reading of the minority at the expense of the cruder preferences shown by the rest ; no one must be left behind. He has to find out what the generality of his pupils really want, and what they are confusedly trying to get, from reading, if it is only the amusement in hope of which they dully wade through a comic paper, or the sense of vicarious adventure that they get from a sensational story. It is something to point out where better humour, and adventure with more reality in it, are to be found.

But once we give the class an opportunity to express and develop its own ideas, discussion soon goes beyond these first crudities, by operation of the collective sense of what is worth while ; and once the teacher has shown, through friendly understanding at the outset, that his suggestions are worth following up, his direction of his pupils' reading is only limited by his own knowledge of, and care to discover, the right material, and by the availability of books. The latter question is a serious difficulty, for which the best solution would be a lending library—it could be begun on a small scale—attached to the school. The value of the teacher as a sympathetic director of reading, and of his class as a clearing house for ideas, will extend in the degree to which he is alive to his opportunities. The main opportunity is to develop a science of reading in the

continuation school, not to impose a ready-made formula, with a list of set books, but to give encouragement and guidance to the existing impulse to read, so that there grows up a power of recognising the needs of the mind as they arise, and of seeking the satisfaction of those needs where it is to be found. The teacher requires, however, some guiding principle; and we have suggested that it will be found by dwelling strongly upon the idea of service, which all growing natures desire to express, and to which all other important ideas are related.

III

IF possible, a course in grammar should be carried out by the same teacher who is responsible for the course in reading which we suggested in the

**The Use
of Words.** last section. The two courses may well and profitably be blended together. But we must expect little, at first, in the way of subject co-ordination, and the present section will deal with the adolescent's need of grammar alone. Our first task, both for ourselves and in the interests of the learner, is to lighten the dreary associations of the word "grammar." It has already been claimed, in Part II., that a real understanding of words can only be developed by studying their use in connection with real interests, and with ideas that the learner feels an actual need to express clearly and accurately. This means approaching language from the point of view of functions rather than

of forms, a practice that accords with modern grammatical theory, and also makes the grammar learnt through the mother tongue very much easier to apply to the uses of any foreign language that may be studied. But such values can remain implicit at first. The learner need not even know that he is studying "grammar" at all. He is going into the very interesting and obviously useful question of how to use words effectively ; and the first business of the teacher will be to bring out the interest and the usefulness.

Few things are more generally desired than the power of statement ; and we approach grammar at the right end, that is to say, at the active end, if we start from the learner's will for expression. The teacher's first consideration must be how to discover the things that his pupils want to say, and to say accurately and expressively. Once this discovery is made, he can put forward his teaching as help where help is needed, not as something that has to be undergone because it is "education," and the Government has ordained it. As with the process of discovering and building upon the learner's own embryonic interest in reading, so with the process of bringing out his desire for expression ; we must be patient over small beginnings, and not expect a cultured interest to appear out of the void. It will become a cultured interest only as fast as we can draw it out and give it cultivation.

The first step is to get the class to discuss some-

thing, to ask and answer questions about it, and to be keen on making the questions and answers alive and to the point. Any subject will do ; it will be as well to have some variety of subjects ; and any connection with the subjects that come up in the reading course will be very much to the good. But the central interest should be a discussion of words themselves ; and the teacher will have to decide, by his own feeling or from experiment, whether he can present the subject of language so as to awaken the interest of the class, or must work round to it by way of interest in other things and the desire to talk about them intelligently. This will depend largely on the teacher's own interest in words, his possession of a good sense of words, and his feeling that there is an art and a philosophy of language. Some people, without being profound etymologists, have this feeling, and are able to arouse it in others ; and these are the people to make grammar interesting. But others, who have not the same tendency or training, can arrive at a co-operation in discovery of the interest of words, by setting themselves to elicit their pupils' needs of expression, provided they frankly put themselves on a footing of co-inquirers with their pupils—always a sound attitude for any teacher to adopt.

In many cases it is to be feared that continuation classes will be found lacking in the power to classify the most elementary uses of words. When it is necessary to start from the rudiments, the

method put forward in Part II., sections 2 and 3, can be adapted to suit the needs, and the susceptibilities, of older children; the chief difference being that illustrative action, enjoyed by younger children, will be beneath the dignity of the older—and rightly, because they are capable of visualising the action from a description. The teacher, however, must not neglect to ring the changes upon sentences describing simple acts, so as to bring out the function of noun, verb, and so forth; the pupil who thinks he knows what a noun or a verb is will generally have only a sketchy idea. The game of turning sentences upside down and inside out can largely be left to the ingenuity of the learner, the teacher only making sure that the action described by the sentence is of enough interest in itself to make the sentence worth the trouble of manipulation. For a single example, it may be mentioned that the invention and drafting, by the class, of imaginary public notices, or factory notices in connection with by-laws, supplies good simple sentences with plenty of alternative constructions to discuss.

Local interests should suggest a good deal of the verbal subject-matter at first; the literary interest can only be used as literary taste develops. In any case, it is well to keep practical interests well represented, for the sake of the clearness and grip that are the first foundations of style. To make expression workmanlike is the first aim of grammar, and

it is an aim that has value for a workman in the trades and crafts as well as any further value that may develop, upon the same foundation, in the form of literary appreciation and, in occasional and exceptional cases, literary talent.

IV

As the evocation of a true interest in reading must depend upon our power of seizing and developing

The Written Word. the learner's existing impulse to read, so, if we are to evoke a real desire to write workmanlike English (and without evoking this desire we shall grind at "composition" in vain), we must find and encourage in the learner some germinal motive for expressing himself in writing. The process of discovery and encouragement will be similar to that suggested in "The Science of Reading," and it may be said here that the two courses last outlined, this and its successor, "The Use of Words," may profitably be combined, with the present suggestions, into a single, full course in English, under one teacher. The more they can be interwoven, the better; but it is in the interests of clearness to follow up the different threads separately before re-combining them, if it be possible, in practice.

We have seen that every one would like to have the power of effective statement, and that this wish can be made the mainspring for keen study of the right use of words; what is the corresponding wish

that can be developed into a desire to write well? It must still be the wish for verbal expression, but in what form of writing? We naturally look to the most universal function of the pen—the writing of letters. Unfortunately, it cannot be said that we shall find a universal desire, among adolescents, to write a good letter. In most cases we shall find a pronounced dislike for writing letters at all. But this is nothing to the distaste with which a set subject for "composition" will be contemplated. The root trouble is, probably, an inner disgust set up by enforced writing which has been made to appeal to no existing wish whatever. The cure is to reawaken the missing wish in the most likely region that can be found. We are purposely considering this question from the standpoint of the most apathetic and ill-educated learner—it is he who holds the class back; but it is to be hoped, at least, that there will be keen pupils in the class, already essayists in a small way, who will rouse in him some spirit of emulation. In any case, it is not difficult for the teacher to bring out the importance of good letter-writing. The vocational value may be put first, as being the easiest to grasp. The pupils are in employment, in which (or out of which) they are anxious to rise; and they can appreciate the fact that much may turn, at some decisive moment, upon their ability to draft an effective letter. From this first step it will be easy to find the way on to higher ground than personal ambition. The start once

made, interest in well-turned writing for its own sake begins to arise ; and this can be connected with the more human value of good letter-writing as a means of preserving and renewing friendships.

The business letter and the friendly letter, then, may be taken for a modest beginning. The first guiding rule is that the situation in which the letter is supposed to be written shall be one in which the learner can easily imagine himself : applying for a post and stating his qualifications (it does no harm to allow some imaginative latitude as to these) ; writing to a friend who proposes to join him in his present work, and setting out the merits and demerits of the life for this friend's benefit ; writing a similar letter to describe the work of the continuation school—incidentally, the opinions thus expressed or hinted at may be food for useful thought to an open-minded teacher ; many other subjects for letters readily occur to the mind, and suggestions worthy of adoption will soon begin to come from the class. Local interests should supply much of the subject-matter, and any outstanding local event can be made the occasion for a descriptive letter. The teacher's criticism of the productions should aim, first, at encouragement, by picking out good phrases and sentences for commendation ; then anything faulty can be referred to the class for emendation, the teacher, if necessary, suggesting a final improvement.

The transition from letter-writing to more delibe-

rate composition will develop of its own accord. Descriptive letters, as the motive power behind them increases, will become more like essays, and as the fiction of epistolary form becomes unnecessary it can be dispensed with. It is well, however, to maintain in the young writer's mind some notion of an audience, not the teacher and the rest of the class, whom he is addressing ; this keeps his ideas from being bounded by the class-room walls. Following the vocational line, simple instructions can be drafted, as though for a leaflet of useful "do's" and "don'ts" to be circulated among newcomers to a local trade or industry ; it is all the better if the teacher does not know all the minutiae, so that the pupil has to make things clear to him in writing ; other members of the class will criticise anything that is wrong. For the expression of more general interests short descriptive articles, such as the local paper can be imagined as publishing, are a useful resource. A friendly editor might even be induced to print any specially successful effort, as an example of the school's work.

One great value of the essay class in secondary schools is that it gives scope for the learner's expression of ideas derived from his other class work ; as far as possible, this should be represented in the continuation school. As we have said, no very close collaboration of teachers with one another is likely to be practicable at first, but this is one of the simplest forms of co-operative teaching, and the com-

position master or mistress should make every effort to keep in touch with the subject-matter of other courses. This will add reality both to the compositions and to the subjects with which they are connected.

V

THE question of science teaching in the continuation school gives a good illustration of the unreality of opposing vocational to general training.

Science and Work. To neglect the scientific side of the craft

upon which the pupil is engaged is to waste a valuable source of interest, to pass by an open gateway into the domain of general science ; while concentration upon the pupil's daily work, and nothing else, means imposing a narrow and sterile outlook upon the work itself, so that nothing is seen of its connection with other activities and their sciences, nothing realised of its place in the world's work as a whole. This realisation, of one's own work as a small, essential cog in a vast and interesting machine, is most important to the *moral* of industry ; the figure is often used to express disgust with one's work, but in this sense the machine is thought of as something that grinds on aimlessly and unintelligibly. Whether we regard the machine of industry as something to be preserved, or as something to be reformed (and the two views are not incompatible), the first need is that it should be understood, looked upon with some imaginative interest and thought over not only by a few controlling minds, but by the collective

mind of all who are concerned in it. This is the only way to make it anything better than a machine:

The first aim, then, of continuation school science should be to seize upon and to expand vocational interest. To do this involves teaching a good deal of general science, especially from the standpoints of geography and simple economics ; and this is the line of work for which it will be least difficult to find or to train competent teachers. Modern geographical study leads by many paths into a wide and useful understanding of scientific relations. At the same time, the study of actual processes connected with the vocation—whether the industry be agricultural, textile, mechanical, or of any other kind—leads to something more resembling the popular idea of scientific training ; some appropriate knowledge of physical and chemical laws, for example, is necessary for the full understanding of industrial process, and this knowledge, in its turn, has to be linked with a more general survey of the sciences involved, if it is to be properly taken in. But there will not yet be many teachers able to correlate technology with general science, and the principal means of expansion will be those that the work of modern geographers is making increasingly available. Meanwhile, it is as well to note that scraps of physics or chemistry, taught without relation to the learner's real world, will be of little use, unless to a very occasional pupil who has in him the makings of an expert scientist. It is most advisable that the sciences should even-

tually be taught, and taught as well as possible, in continuation schools ; but this hope can only be fulfilled to the extent that we produce teachers who can build definite scientific interest upon the basis of real, existing interest. Attempted short cuts to science are a waste of time.

The method that we suggest follows the golden rule of taking the learner on from where he is, not trying to make him jump suddenly to the attitude of studious competence that we desire for him ; and in science, until some general ground is achieved in elementary schools, the continuation pupil will be nowhere, to start with—he will have to be drawn towards scientific interest by patient development of the simplest general interests. But, by the same rule, we must not expect teachers to jump suddenly to an ideal proficiency in the manipulation of interest, such as only the best products of the training colleges are likely to show.

We must find, or make, the stepping stones that lead from rule of thumb method to the method of interest-cultivation. In the present case we have available the teacher of modern geography on the one hand, and the teacher of local, vocational technology on the other—assuming, that is, that the probable compromise takes place between those who think that continuation training should not be vocational and those who think that it should be nothing else. These teachers can be encouraged to bring as much general science as possible into their

work. It is clear that modern geography is capable of indefinite extension into general science ; this is, indeed, the criticism levelled at it by those who like their subjects in pigeon-holes. The geography syllabus, then, should suggest two principal aims : the building of geographical knowledge outwards from local and vocational interests, and the connection with it of as much appropriate scientific knowledge as possible. Naturally, the science must be mixed in slowly, or there will be lumps in the mixture ; and a scientific outlook cannot be imposed upon any one, teacher or taught, by magic. The resultant mixture might be labelled scientific geography, or geographical science. The Geographical Association could no doubt produce an admirable preliminary syllabus.

Meanwhile, the many varieties of local, vocational training give as many opportunities for scientific study of the processes, natural and artificial, that are involved. Here we need technological instructors who are keen on science, and ready to give scientific explanations ; this spirit is far from uncommon, and would grow with recognition and encouragement. A great practical step would be to organise the training and sending out of teachers with a scientific knowledge of agriculture and farm work, who might also be of great use on local farms. One such outstanding example could be followed up in connection with other industries. It is worth noting that we have colonials among us now possessing practical knowledge both of farming and of teaching, who

might be induced to remain and help us to make a beginning.

VI

IN considering what the teaching of history can mean for the continuation school, it is more than ever needful to remember that the syllabus History. and method of full-time schools furnish a model for avoidance rather than for adaptation to our ends. Secondary school history, culminating for a certain number in specialisation, at school and university, demands a great deal of time —even more time than is actually given to it; it teaches practically nothing that is memorable to those who do not specialise with enthusiasm; it is the training of the academic expert, "tried on" in the case of the average pupil, with the effect of sifting out potential specialists and sending the rest more or less empty away. This may or may not be an ideal system in secondary work; the point is, for our present purpose, that whatever educative result it has in secondary work it will not have in continuation work, if only for the simple reason that there is not enough available time. We have to find another method.

The possible alternatives may be put under three heads; we can teach scraps of text-book history, surrounding them with plenty of biographical and romantic interest, and trying to make them as nourishing as possible to the historical sense; we can teach a broad and simple scheme of world his-

tory ; or we can develop an outlook upon history that is fundamentally, though by no means exclusively, economic, and fits in with our general aim of harmonising vocational with developmental training. We could decide outright upon the third alternative if we had ideal teachers, who could make history upon an economic basis as full of human interest as it is made in Sir Stanley Leathes' text-books, instead of the heavy, detail-congested subject that it can all too easily become ; but the teacher who can expand vocational into historical interests is seldom born, and is not yet made in any quantity. This need not mean that we must throw up all hope of vocational-economic interest in continuation school history, but it does mean that we cannot start from this basis, since the basis, as far as most teachers are concerned, is not there to start from. In Part II. the study of simple world history has been advocated for the upper standards in elementary schools. It is there pointed out that the teaching of world history on elementary lines is not such a large undertaking as it might appear at the first glance. Assuming that this is not done, as yet, in the elementary school, it might very well be done in the continuation school ; or, if already begun, it might be carried further. But again, we have not the equipped teacher ; and a good, simple text-book on the main currents of world history, well correlated with geographical considerations and easy economic teachings, is badly needed.

It seems as though scraps of "period" history would have to be our starting-point for the present. If so, it should be a starting-point to be left behind as rapidly as possible ; and we shall consider one or two of the available means for bringing about a transition from it to the history that the continuation pupil needs—a history that will show him how his own life and work, and the life and work of his neighbourhood and nation, belong to a system of cause and effect through which the whole principle of social service has been developed. First of all, the periods chosen should be those with which relevant modern comparisons can be made. The position of agriculture and craftsmanship under different historical influences should be brought in as much as possible. Sir Stanley Leathes' volumes on "The People of England" should be in the hands of the teacher, both for the range of such instances that they give, valuable in the education of the pupil as a worker, and also for the useful sidelights that they throw upon the development of citizenship. Every possible and appropriate reference should be made to the work of the locality, and to present-day questions of service and citizenship as they arise from time to time. World problems of to-day should also be associated with events of the past : it is most interesting to trace the way in which questions and disputes that were formerly at issue between individuals, or between small communities, are now, with the development of the social complex, at issue between

large communities within the nation, and between the nations themselves.

The chief point at which school history of the academic type fails to answer the needs of continuation work is its failure either to lead up to or to give any account of the industrial revolution. This, for continuation work, is the crucial historical moment ; and it is from this moment that history—such history as most of our teachers will have learnt—retreats in disorder. It is difficult to see how teachers are to pass, unaided, this *pons asinorum* in the union of recent with remoter history. The difficulty is that once a foot is set upon the bridge present political opinion or prejudice comes in to complicate the issue. Our chief hope must lie in the training colleges ; they can do much, first, by teaching industrial and economic history, and secondly, by developing the idea that the history teacher's business is with events rather than with opinions, or, rather, that his business with opinions is to treat them as events, and consequently to present them all, and try to get them understood, with impartiality.

VII

WE have seen that an element of industrial history and an element of economic geography should enter into continuation teaching if the worker **Politics.** is to be one who thinks understandingly about the place of his work, and of work generally, in the scheme of things. This field of

thought naturally leads to political speculations. Indeed, it was this fact that for so long kept it a closed field. Most of us, perhaps, are still in two minds about the development of the worker's range of thought in this region. There are many who will say, not without justice, that it will infallibly lead to questionings, discontents, and a hasty fumbling after fallacious remedies. But the same people will regretfully admit that the possibility of denying expression to questionings and discontents is past. They will be expressed in any case ; and we have to consider how they can be expressed so as to help, not to hinder, the task of reconstruction that lies before us.

Industrial problems must arise ; and sound economic teaching will help them to emerge intelligently instead of blindly. But it is not enough to provide for the intelligent emergence of problems ; we have to develop some understanding of the range of possible solutions. This does not mean that we should teach all the different political "isms" of the day ; these can see to their own propaganda. It means, rather, that we have to encourage balance and breadth of view, so that ideas for the organic growth of a political system may be distinguished from mere political nostrums ; and that we have to provide some basis upon which sound political speculation can be built up. This basis is to be found in a knowledge of the different polities that have come into being, under varying circumstances and

influences, in the course of human history. Ideally, such teaching ought to be fused with that of modern geography and simple economics, advocated in the last two sections ; in practice, it is likely to require a separate course, probably a lecture course given by a teacher who has "got up" the subject for this purpose, rather than the educational study by the pupils, which few teachers would be able to instigate. At the same time, such methods as are described in Messrs. Gollancz and Somervell's "*Political Education at a Public School*" might be thought over by those who will be responsible for continuation work, with a view to the possible introduction of corresponding methods into the continuation school. Obviously, a method that produces good results with public school boys is not likely to prove directly adaptable to our purpose ; it is a case, rather, for finding a complementary method of encouraging the new attitude, on the part of the State-school product, that will meet and co-operate with the new attitude on the part of the public-school product. Here, it is true, we are in a region of speculative hope ; but signs are not wanting that Utopia—or at least, a considerable urgency in a Utopian direction—is in the minds of many whose will must carry increasing weight in the near future.

For the immediate practical purpose, however, we may confine ourselves to the idea of lecture classes in politics, aiming simply at the opening up of broad views. It will probably be best that these classes

should not begin until after, say, the first year of continuation schooling, when the simpler economic aspects of civilisation should have been duly realised, since it is upon the rock of economic fallacy that an insecure polity finally goes to pieces, however good the character and intentions of the people concerned. It will be a function of courses in history and geography, as we have suggested, to teach the economic view in close co-ordination with the wider human values. From these courses a series of lessons on the polities of different civilisations can follow in natural sequence. None of these must be blind-alley studies. As we have suggested in connection with the choice of history periods, the polity that is chosen for special study should be chosen, not only for its intrinsic interest (which the continuation pupil may fail to appreciate), but for its bearing upon some aspect of present-day problems; and this aspect should be very carefully brought to the fore and connected with those interests of the learner, in his own civilisation and the work of his own world, which it is so vitally important that he should develop and expand.

The chief difficulty for the continuation pupil, as for other and maturer minds, will be to see the application of any given polity to this or that element in the confused network of modern civics. Our task of bringing clarity to the mind of the learner is bound up with our task of bringing order into the inevitable confusions of our present system. It will not be a

false simplification, but a valuable forward glance along our only line of real simplification, if we treat of local government, devolution, and the growth of minor polities co-ordinated within the modern State rather from the point of view of what might be than of what is. Not that the best available comprehension of that which is must be neglected—far from it ; but in this case the formulation of projects, followed by discussion of the practical difficulties in their way, is one of the best methods of approach to an understanding of the present complex. The ideal State—in Utopia—would be a perfect co-ordination, each in its place, of all the polities that have proved their value ; and we suggest, with all due caution against the purely visionary outlook, that a little Utopia-mongering, always brought to earth in its relation to present possibilities, might not be without good effect upon the citizenship of the future.

VIII

OUR last few suggestions have been aimed at the social intelligence of the pupil, his outlook upon work and citizenship when he regards himself as a unit in the social complex.

Exact Method. We may now turn a closer regard upon his practical equipment as an individual. This is not to make a false opposition between his individuality and his citizenship ; he needs as an individual the same equipment that he needs as a

social unit ; and the first requisite of all is clear-headedness. There are many ways, as we have seen, in which continuation work must cast loose from the established formulæ and the neat pigeon-holes of secondary work ; and training in exactitude of mind is one of the tasks that cannot be carried to any useful issue, if we look both to the present of the continuation pupil and to his future, by a selection from secondary studies. Our suggestion is that training in general accuracy should be made the subject of a consecutive course, cutting across the boundaries by which, in more specialised work, the different kinds of accuracy are isolated and studied each for its own sake.

Mathematics is the sheet-anchor of training in exactitude ; and mathematics has long been divided —though the division is breaking down, as regards school work—into the theoretical and the practical. Broadly speaking, we have not room for theoretical mathematics in continuation work. But practical mathematics need not mean only book-keeping, accounts, and the calculations that belong to any particular vocational studies of the pupil. All this can be given its proper place as part of the vocational training that must vary with the individual and the locality, and therefore cannot come within the scope of these general recommendations. The other side of practical mathematics belongs to the solving of general, everyday problems—the discovery, in any given question, of how much of it can be expressed

in terms of quantity and stated and worked out in figures. This is a value of mathematics which is too often neglected in secondary work. The act of the mind that sifts out the quantitative element from a problem and realises what can and what cannot be dealt with by figures is an important aid to clarity. Our course in the science of accuracy, then, will include the question of mathematical accuracy (and a good deal of actual problem work in arithmetic, drawn from real and interesting problems of the day), but it will also raise many questions of mental exactitude that begin where calculation in figures leaves off. How do we arrive at accuracy, or comparative accuracy, in such questions? First of all, by making sure what we can know for certain and what we cannot. It is a great help in the study of any problem to have formed the habit of sifting out and viewing separately one's certainties, one's comparative uncertainties, and one's complete uncertainties. A general before a battle—to take the obvious instance—knows his own numbers and dispositions accurately, the enemy's with comparative accuracy, and calculates on the maximum that can be supposed to be against him; his weather prospects, in spite of his meteorologists, are a matter of comparative or complete uncertainty; the *moral* of his troops is partly calculable, but not by any directly mathematical process; and there are many other points of greater or less certainty that he has to consider.

It will be obvious that there are innumerable problems, great and small, that lend themselves to consideration on the basis of the limits of accuracy ; and the writer's experience of children a good deal below the continuation school age is that they take a keen interest in this preliminary handling of a problem. They enjoy the sense that they grasp and possess its significant elements, and can hold them apart in their minds and see them distinctly before bringing them together in a reasoned conclusion, as definite as the case will warrant, neither more so nor less. They see that they have before them a way of escape from muddle-headedness, the sense of which makes all young people, like their elders, feel ashamed. And we all want the power to be decisive without making slapdash mistakes. The question is whether the real need of training in exact method for the analysis and resolution of everyday problems can be supplied by teachers of the average grade. It may be suggested that the proper soil out of which such a course of training might grow is the existing treatment of arithmetical problems. To begin with, problem work in itself, simply as arithmetic, needs a good deal more attention and practice than it usually receives, if we mean the real problem work that is not done by working out examples that have been constructed to fit a rule already learnt, but by an effort of native ingenuity on the part of the pupil to adapt the rules that he knows to the exigencies of some practical question.

The opening stage of the course may well be made to consist in such a study of real arithmetical problems, special care being taken that the rules of proportion are thoroughly understood and sensibly applied, since a sense of proportion is the better half of reason, in mathematics or in anything else. Then, the "problems" course (this seems a possible title for it) can be gradually extended to take in questions to which arithmetic furnishes only a part of the answer. This is already done, to a minor extent, in modern arithmetic teaching, when we encourage approximations and a commonsense view of the requirements stated in a problem. The extent to which human problems can be developed from the arithmetical is a matter that will depend upon the teacher, and upon the training that can be accorded to him. A great deal can be done by the simple process of asking for problems of any kind from the class, finding out how far they are capable of a quantitative solution and then analysing and discussing, as far as possible, any further conclusion that does not fall within the bounds of arithmetic.

IX

In many continuation schools, if not in most, it will be advisable to have alternative courses in certain subjects, answering to the needs of pupils whose daily employment leaves them with this or that faculty unexpressed. A certain number will be doing craftsman's work in

Craftsman-
ship.

greater or less degree, and these should be receiving appropriate technological teaching, to bring out whatever idea of craftsmanship belongs to their trade or calling. Others will be in sedentary employment, or giving such subordinate help in industry as provides no development for their craftsman's faculty ; and for these a course of manual training is obviously indicated, for the sake of their general development. These, also, are likely to change their employment as they grow up, and will need to have some practice in doing neat and accurate handiwork, and some sense of pride in the work of their hands.

The question arises, What will be the best forms of handiwork for the encouragement of this general sense of craftsmanship ? We cannot afford much time, and manual training is worse than useless if it is scamped ; the choice lies between some one activity, such as woodwork, pursued with all the thoroughness that time will allow, and a succession of small, fairly easy jobs, such as go to the development of a "handy man," each studied with intelligence and carried out in workmanlike style, and then replaced by another of a different kind. The latter plan has its recommendations. From the domestic point of view, the handy man keeps a better home, takes more interest in it, and shows a better example to his children ; and we have to remember that continuation schooling is taking some of the time and energy which the adolescent, if he has a bent that way, might be devoting to the cultivation of

handiness. We have to cater for this useful tendency, and also to give it a chance to emerge in those who would otherwise have been loungers at street corners. The chief practical problems are teachers and material. We may suggest that instructors should be looked for among the ranks of the genuine handy men—to be sharply distinguished from the universal muddlers who masquerade as such—and that, as we suggested in Part II., a school workshop can have great educational value when it is not provided but comes into being as a cherished creation of the teacher and class.

As for the activities of the class, a certain number of odd jobs that need to be done about the school building will be well within its scope ; and the pupils can be encouraged to bring forward home problems that they would like to tackle—such as the glazing of a window, or the waterproofing of a damp wall, or the making and putting up of a set of shelves for the mother. This calls up the picture of a rather desultory kind of teaching ; but the whole point of it is that it gives an outlook upon desultory employments, that duty of keeping small things ship-shape in which every one should take an interest and a share, and introduces that policy of “thorough” which does so much to smooth and simplify daily life. The mechanical side of civilisation leaves us too much in the habit of letting anything slide that cannot be handed over to a machine, human or other. At the same time, pupils can learn to distinguish

between the job that they can do satisfactorily for themselves and the job that requires an expert ; it is part of a training in workmanship to learn not to tinker.

A second line of activity that we would suggest is the making, by the pupils, of things that they themselves want, with the teacher to see that they make them properly. Hobbies are not to be despised, educationally ; for one thing, the adolescent needs some play-activity and needs the co-operation of an adult in the transition from child's play to adult recreation—that power to employ one's leisure which has been said to be the test of the educated man. The street-corner lounger is a boy who has lost his power of play without transmuting it into active enjoyment of a more grown-up kind. Also, real hobbies keenly pursued keep alive a certain inventiveness in the mind, which it is not a good thing to let die. But it is most necessary that the hobby should be connected with a good standard of craftsmanship, or it degenerates into an unsatisfactory "makeshiftiness" that destroys all its value. This "makeshiftiness" comes largely of starting a job without due consideration of what tools and materials are available, or what is one's available skill ; failing the exact thing that he needs, the adolescent goes back to the spirit of childish play in which "anything will do." It is here that the teacher can help by suggesting foresight in planning, modifications in the plan to make it thoroughly practicable, and,

above all, interest in a workmanlike job for its own sake, pride in a well-finished product, and a corresponding shame about anything that is merely cobbled together. If a course of this type seems too much like amusement for serious consideration, we may remember that it is for those who badly need the association of interest with manual activity; the many who are doing nothing interesting with their hands during their working hours. These will inevitably miss the development that comes naturally to those whose daily work is a craft, unless something is done for them, and on simple and possible lines.

X

IT is likely that we must wait a long time for a studied scheme of artistic training in the continuation school, although we are beginning to recognise that no one is completely educated whose artistic side, be it strong or weak, is undeveloped. We admire the man who is a bit of an artist in his work, whatever the work may be, and we may wish that his type were oftener to be found; but we are not yet prepared, either in opinion or technique, to give development and expression to the modicum of art that is in every one. The elementary schools, however, are making a good beginning; and something, at least, should be done in the continuation schools to keep alive the rudiments of an artistic outlook and an artistic conscience. It is only necessary that the teaching shall

be simple and practical : simple, because otherwise it cannot be thorough in the limited time that will be available ; and practical, because the artistic instinct, to be of any value in a life which is not that of a professed artist, should give its particular colour and zest to everyday doings. It is not enough, though it is a good thing in itself, that the " young person " should go into a picture gallery when he has a chance and enjoy what he sees there.

Another not unimportant question is the value of pictorial expression in many regions of class work. Most teachers know how much a drawing or diagram *made by the pupil* can do to ensure the full comprehension of facts and ideas ; but teachers of continuation subjects will not have time to teach drawing to those who are unhandy with a pencil, and may be inclined to regard it as a luxury that they cannot afford.

A drawing class will serve, in the first instance, to maintain a standard that will be valuable in other classes. There is also the practical value outside school work : in many trades and callings the ability to turn out a good diagram or sketch is a very distinct asset. This, probably, is the point that will appeal first to the pupil who would otherwise see little reason for troubling himself to learn to draw. So far we are on utilitarian rather than artistic lines ; but we may insist that art can only spring out of utility, however far from it it may eventually spring. For the majority it cannot spring far, but can do

something to bring healthy pleasure into a utilitarian life. There is something of artistic satisfaction in making a good sketch of a job before setting to work upon it. Several forms of technology will include the production of working drawings, and pupils who are preparing for such interesting and advanced work as this implies will be all the better for the standard of artistic finish that should be given by drawing lessons ; while even those who may go through life and scarcely ever need to make a sketch of any kind will have had their comprehension of line, form, and proportion strengthened in some degree. Here we touch upon the developmental value that the simplest art teaching has for the mind and for the nature in general.

Granted the value of a course in drawing, there remains the question of method. The teaching of drawing falls under two heads : practice in muscular control—the ability to put the line where the mind's eye sees it—and actual representation. The almost obsolete " freehand " drawing, from printed copies, provided (on the wrong system) for the first element, ignoring the second. Drawing from solid models, made for the purpose, allows for a certain inadequate amount of representation, giving the mind some translation to effect from form into line, while keeping exact enough for the necessary muscular practice. Drawing from natural objects gives a great deal more scope for representation but makes it very difficult for the tyro to see his lines at all

exactly before he draws them, and so tends to give too little training in control. It is the writer's experience that a great deal of the training in control can profitably be detached from representation and studied separately as exercise work. Such exercises as making three dots haphazard on the paper and then trying to draw an arc through them with a single sweep of the pencil do more for the co-ordination of eye and hand than much drawing from models. It is of no use to be able to "fudge" an outline into approximately the right shape; the satisfactory thing is to be able to transfer the line that one sees directly on to the paper. We recommend, then, a good proportion of well-thought-out exercises in direct, rapid line-drawing; they save time in the long run and obviate a great deal of muddling about with the pencil. (And it may be noted that they do not, in practice, bore the pupil; he is bored, rather, by having to muddle away at a drawing that he cannot get right.)

Natural objects, chosen with common sense, should then present no insuperable difficulties; but we must attend to the commonplace of the art schools—that you must see a line before you can draw it, and that half the battle consists in learning to see. The pupil needs continual help in picking out the main significant lines and giving them their right emphasis and no more. But given this judicious help, and also sufficient practice in making his pencil-point go where he wants it, he almost teaches himself, and is

best left to develop the style that suits him—though his style should be criticised in general for any weakness or slapdash quality or tendency to “fiddle.” We have considered pencil drawing only, as being the most likely to be generally taught ; the educational value of the use of colour must be left for consideration to those who are prepared to go farther than our present modest aims.

XI

WHILE the general aim of the continuation school, apart from technological training, should be distinctly opposed to specialisation, it will be

Extra Subjects. well to consider the possibility of one or two special courses into which likely students may be drafted. This will only be feasible where the numbers of the school are fairly large and there is sufficient staff to provide for alternatives ; but the large continuation school should be taken into account, precisely because it makes the first offer of these wider alternatives.

It has been with some reluctance that we have kept modern languages out of our general scheme ; but it is very clear that modern languages cannot be approached with any profit until a thorough grounding in the mother tongue has been secured. For the majority, all the available attention will be needed to secure a proper appreciation of the resources of English ; but there will be some pupils, coming from the elementary school with their natural language

bump well developed, who will be quite ready, after perhaps a year of further study in English, to pass on to a practical course in French that will both widen their mental outlook (an undoubted effect of studying, however slightly, a foreign tongue) and open up for them the chances that lie before even the incipient linguist. The vexed question arises here, whether the grammatical or the direct method should be employed ; the opposition between the two is largely mistaken, but it exists. We can only say that either, by itself, is a roundabout method for which continuation work cannot afford the time, and urge that an honest attempt should be made to combine the two. (It will be obvious that we are using the phrase "direct method" in a sense that only applies to the one-sided view of the system which in its more modern development is both "direct" and grammatical.) For this union two things are necessary : that English grammar shall have been taught in an intelligible and interesting way and that the same terminology shall be carried over from English into the foreign language. It is absurd, and it wastes time, to teach French grammar as something apart from English grammar ; and the grammarless teaching of a language is a slow and nebulous business.

We have already suggested (in Part II.) a way of approach to English grammar ; on the question of terminology we can point to the report of the Modern Languages Committee, which

indorses the findings of the Joint Committee of Grammatical Terminology. The reforms advocated by the latter committee would, we believe, make exactly the difference between being able to teach a modern language in the continuation school, and not being able to teach it—or being able to teach only an ineffective smattering. Even the selected pupils whom we have in mind for a modern language course, those who show some real grasp of English, will make little progress in the available time unless their grasp of English is utilised.

Mathematics is another subject in which, among the pupils of a large town school, there is likely to be considerable difference of aptitude and attainment. The more advanced will have to be drafted out of the course that will be needed by the majority. What kind of work will be, for these, at once the most useful and the most educative? Our own suggestion would be that a course in practical mathematics should be given, with special insistence on the intelligent use of shortened methods, graphical work, mensuration, and (if we get so far) the first elements of statics and dynamics. The advantage of shortened methods is obvious, and they have much value in promoting quickness of mind, provided that they are thoroughly understood. Graphical work, connected with vital statistics and other civic interests, has very real importance for an understanding citizenship; many things that the educated citizen ought to have in mind can best be set out in

the form of graphs, and we may look forward to a time when graphical representation can be much more freely used in the press. The power of "sizing up," which mensuration develops, has a wide vocational usefulness ; and if there can be added some notion of the scientific "sizing up" of forces, as well as quantities, so much the better. Algebra need not be ruled out of our reach if it is approached from the practical standpoint, the symbols being introduced as the need for them arises.

Something may be done, also, for those who show aptitude in natural science. The main course that we have suggested ("Science and Work") would develop scientific ideas largely from the standpoint of modern geography teaching—the most scientific teaching, in the wide sense, that we have in fairly common use. Here, again, there will be pupils, from the more advanced elementary schools, who forge ahead rapidly, and soon become fitted for more definite scientific training. For these, the real need is laboratory work, and it will be of no use to persuade ourselves that classroom work can serve the same purpose effectually. We may hope that a time may come, with further educational progress in this country, when every continuation school will have its laboratory—not necessarily an elaborate and expensive affair—as a matter of course ; meanwhile, it may be urged that the largest schools, or those of them that are in the best financial circumstances, should take the first step.

XII

Two views of the continuation school are possible : in the one view, its purpose is to provide the pupil with as much knowledge and development **Conclusion.** as the allotted time will permit—it has to put him on good terms with himself and help him to make good his latent capacities. In the other view, it must do something to put him on good terms with the world in which he has to live and work, and with the community of which he is becoming a citizen. The suggestions put forward in the preceding sections have been directed towards both aims ; and indeed, the two can only be realised in so far as they can be made one. But education is only moving with comparative slowness towards an equal balance between individual and social development ; the existing body of method that we have to mould to our purpose takes account, predominantly, of the individual ; and it may be as well to lay the final stress upon social development as the value that we most need to keep in mind.

In the first place continuation work has to make clear to the learner what it is that his world expects of him, and to overcome the inertia towards full social adaptation—an inertia that easily shades off into hostility—which is natural to those who do not understand their world, or believe that it deserves well of them. There are few who do not suffer in some degree from what Mr. Clutton-Brock has called a conscientious objection to life in general. The

remedy for this disease is an awakened interest in one's world and an active, not a perfunctory, attitude towards it. Energy follows the lead of interest, and the union of interest and energy is will—in the social aspect of things, the will to serve ; in the corresponding individual aspect, the will to progress. The development of will, as the necessary complement to the development of knowledge, is the goal towards which modern education is striving ; we recognise, in ourselves and in our civilisation, too much of the type that knows what should be done and does not do it. It is a tragic fact that we needed war to make us begin to realise the importance of will. Peace and reconstruction will need no less, and social goodwill is the primary value that we have to develop ; and it can only be developed through social interest.

It is for this reason that we have put forward social interests as being so largely the concern of continuation schooling. Continuation work brings us face to face with a great opportunity, in that it gives us learners in school who are also, and at the same time, learners in adaptation to the wider social life. We have to arouse in them further desire for knowledge, further desire for progress ; but through and beyond everything else we have to arouse a fuller desire for, and understanding of, social fellowship and service. This cannot be done as a matter of theorising and preaching alone ; it can only be done by taking the practical concerns of the pupil's world and helping him, in conjunction with his fellows, to understand

their abounding interest and their vital claim upon him. There is, we must recognise, another side to the picture. Much of industrial life and work is consumingly dull. And it is important for the young worker to look this fact straight in the face, and to consider the why and wherefore of it. The consideration would make a good subject in the course that we have outlined under the heading of "The Written Word." It would be of great use to the learner's view of social life to have considered, from practical examples, how far mere bald drudgery is permanently necessary, how far it is temporarily necessary, and to what extent we can look to better organisation and drudgery-saving machinery for a release of energy to the service of higher ends. We know how many valuable labour-saving inventions have been evolved by intelligent and thoughtful workmen of the self-educated type ; the type might emerge with less rarity under the influence of the continuation school.

It may be difficult, since we have been trained for so long to think of school subjects in separate pigeon-holes, to imagine education for social understanding and social service as anything but an additional subject or set of subjects. The point is, rather, that any subject can be taught with or without the social aim. In many cases, such as history, the subject-matter can be chosen and presented with an eye to its bearing upon present conditions and problems. This is advisable in all school work, if we wish to

develop other than academic interests ; in continuation school work it will be imperative, because academic developments, if we wanted them, will in most cases be out of the question. Next to the choice, whenever there is an alternative, of subject-matter that correlates well with social interests, we have to consider the extent to which these interests can be brought in, for reference and illustration, to teaching of all kinds. There is nothing that has not its social aspect ; there is nothing to which this aspect does not give increased breadth and reality ; and we have to unlearn an ingrained habit of leaving it out. Our social reactions to the war, eager, well-intentioned, and largely impotent, show the extent of the blind patch that there has been in our field of vision. We need to develop an increasing power of social vision, as a community ; this development will be largely in the hands of the continuation schools, as they are at first, and as they will be in the further future ; and their future growth and influence upon our national life will be to a great extent determined by the kind of foundations that we lay now for a training in social understanding.

INDEX

A.

- Abstractions, 23, 46 *et seq.*
Adams, Professor J., "The New Teaching," viii
Algebra, 24
Apparatus, 78, 81
Artistic work, 3, 30 *et seq.*, 94, 131 *et seq.*

C.

- Causation, 11—12
Chemistry, 10, 12
Citizenship, 97
Civics, 8
Classification :
 of subjects, 2
 of things and of words, 56
Composition, 8
Conscience, 33
Consistency, 51
Continuity, 9, 15
Cook, Mr. Caldwell, "The Play Way," 33
Co-operation between teachers, 40—41, 98 *et passim*.
Correlation, value of small links, 90. (*See also* under Interrelation.)
Cycle of change, in Nature, 10

D.

- Diffuseness, 13
Dogma, 35—37
Dramatising grammar, 59
Drawing, 131 *et seq.*

E.

- Economics, 8, 28, 122
Environment and character, 28—29
Expression, 105, 107

G.

- Geography, 3, 8, 13, 15, 26 *et seq.*, 115
Geometry, 24
Gollancz and Somervell, "Political Education at a Public School," 121
Grammar, vii, 7, 19, 54 *et seq.*, 104 *et seq.*
Graphical work, 137—138
Greek, 19

H.

- Handiwork, 3, 53, 76 *et seq.*, 127 *et seq.*
History, 3, 8, 13, 14 *et seq.*, 36, 52, 65 *et seq.*, 116 *et seq.*
Hobbies, 130

I.

- Imagination and accuracy, 83
Individual and social development, 139 *et seq.*
Industrial revolution, 119
Inertia, 139
Interest, childish, 73—74
Interrelation of subjects, 4, 26, 34, 40, 48, 52, 77, 88 *et seq.*, 98, 111—112, *et passim*.

L.

- Labour problems, 120
Language teaching, vii, 3, 7, 18 *et seq.*, 52, 54 *et seq.*, 80, 100 *et seq.*, 135—137
Latin, 19
Leathes, Sir Stanley, "The People of England," 117, 118
Letter-writing, 109
Life, in relation to energy and matter, 71—72

M.

Mathematics, 3, 7, 13, 22 *et seq.*, 81—82, 124 *et seq.*, 137
 Morley College, 101
 Mother tongue, vii, 3, 19

O.

Odd jobs, 129
 Overcrowding of curriculum, 39

P.

Physical education, 84 *et seq.*
 Picture and diagram, 31
 Politics, 119 *et seq.*
 Principle and practice, 1
 Principles for children, 46

R.

"Readers," 63—64, 88—90
 Reading, 61 *et seq.*, 100 *et seq.*
 Relations, 4
 Religious knowledge, 2, 16, 29,
 34 *et seq.*
 Rule of thumb, 25

S.

Science, 3, 8, 9 *et seq.*, 28, 32,
 37, 52, 69 *et seq.*, 112 *et seq.*,
 138
 Small beginnings, 105
 Social interests, 140—142
 Specialisation, 4
 Stories, historical, 65 *et seq.*
 Subject-paralysis, 43
 Symbol and reality, 61—62

T.

Terminology, grammatical, 136
 —137
 Theories, childish, 49
 Time-table, 5 *et seq.*
 Truth and fact, 61—63
 Tyndall's wave, 11

V.

Vocational and non-vocational
 work, 76, 97, 112—113

W.

Will, 140
 Words, child's idea of, 54
 World history, 15—16, 66—67
 Writing, 91, 92, 106 *et seq.*

